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ABSTRACT

Materials are provided from the spring and fall Maryland Vocational Administrators' Conferences. Part I: Spring 1984 begins with Addison S. Hobbs' brief welcome and the conference agenda. "Linkage Projects between LEAs (local education agencies), Two-Year Colleges, and Senior Colleges" (Lynn M. Gilli, recorder) summarizes resource persons' comments on linkage and their programs. "Training People for Productivity in Industry" (Peter Hudson) discusses staff retraining at Westinghouse. "Training People for Productivity in Industry: Applications in and Meaning for Education" (Richard Kiley) lists what educators can do to prepare students to be productive workers. An evaluation of the spring conference includes eight data tables. Part II: Fall 1984 begins with a copy of the agenda. "Enhancing Connections between Vocational Education and the Business Industrial Community" (Michael D. Usdan) discusses 11 interrelated issues that form the basis for a realistic projection of a change-laden scenario that will influence educational administration. "Linkages Between Secondary/Postsecondary Vocational Programs and Other Community Agencies" (Leon L. Copeland, Clarence Johnson, Willard Mumford) describes three exemplary programs, focusing in each case on underlying philosophy or goal, program organization and implementation, and the program's degree of success. A table provides evaluation data on the fall conference. "Productivity: a Password for Excellence in Vocational Education" (Addison S. Hobbs) expands upon a philosophy of productivity. "Needed Curricular Changes in Vocational Education" (Albert J. Pautler, Jr.) suggests a modular curriculum. "Productivity and Equity in Vocational Education: An Agenda for Action" (Thomas C. Tuttle) proposes courses of action for building an agenda for Maryland vocational education. "Developing Human Resources through Staff Development" (Kurt Eschemann) sees staff development as a method of maintaining the highest quality instruction possible. "Productivity through Vocational Education" (Alfred W. Pelletier) discusses the contribution that quality vocational education can make to the national economy and to the development of meaningful employment for students. (YLB)

ED255726

JOINING VOCATIONAL EDUCATION AND THE COMMUNITY

Maryland Vocational Administrators' Conferences
Spring and Fall 1984

Edited by Angelo C. Gilli, Sr.
DVTE/MSDE

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Acknowledgements

The editor wishes to thank those who took the time to write papers that are included herein. Special thanks to those individuals most involved in the preparation of the proceedings for publication. These persons are: Norma Eminizer for her patience and diligence in monitoring the manuscript through the word processing stages, on to the printer, and finally to its' distribution; Maggie Green and Paula Stephens for their patience and skill in preparing the manuscript through word processing.

Errors contained in this work should be attributed to the editor.

The success of these events depended heavily upon the efforts of people representing vocational education from the secondary, two year college, and adult sectors. In addition cooperation was obtained from several key persons from Local Advisory Councils, Private Industry Councils, County/State Economic Development Commissions, State Advisory Council for Vocational-Technical Education, and several leaders from business and industry. The agendas of the two events reflect the wide support gained from various community groups.

On behalf of the Division of Vocational-Technical Education of the Maryland State Department of Education, I would like to express my personal thanks to all who participated in either or both of these conferences.

Dr. Addison S. Hobbs
Assistant Superintendent
Division of Vocational-Technical Education
Maryland State Department of Education

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PART 1

SPRING 1984

WELCOME

It is my pleasure to extend to each of you a most sincere welcome to the 1984 Spring Vocational Administrators' Conference. The success in the development of this event depended heavily upon the cooperative educational institutions, county economic development agencies, businesses, and industries throughout the State of Maryland. As evidenced by the variety of concerns addressed in the agenda, this conference has gained the support and interest of numerous groups. On behalf of the Division of Vocational-Technical Education of the Maryland State Department of Education, I would like to express my personal thanks to the educators, economic developers, and employers for their participation in this event.

Dr. Addison S. Hobbs
Assistant Superintendent
Division of Vocational-Technical Education
Maryland State Department of Education

MARYLAND VOCATIONAL ADMINISTRATORS' CONFERENCE

A G E N D A

March 8, 1984 — Day 1 — March 8, 1984

9:00 — REGISTRATION
Coffee

10:00 - 12:00 — Two-Year College Occupational Deans
Michael Parsons, Presiding

Maryland Council of Vocational Administrators
John A. Myers, Presiding

Speaker: A. J. Pautler, SUNY at Buffalo
Topic: Mixing and Matching Vocational Curriculums

12:00 - 1:30 — LUNCH

Host: Theodore Rybka, Branch Chief, DVTE/MSDE
Speaker: Howard Ferguson, Manager
Westinghouse Corporation

Theme: Participatory Management-Quality Circles

1:30 - 3:00 — Baltimore City Economic Development/Vocational Education: Follow-Through

Chair: Bernard Berkowitz
President, BEDCO

Panelists: Ray Adcock, Director
Maryland Industrial Training Program
Department of Economic & Community Development

Lloyd Alston, Assistant Superintendent
Division of Vocational Education
Baltimore City Public Schools

Marion Pines, Director
Mayor's Office on Manpower Resources
Baltimore, Maryland

3:00 - 3:15 — COFFEE BREAK

3:15 - 4:30 — Cracker-Barrel Sessions *

Coordinator: Mary Ellen Kiss
Director, Title II
Prince George's Community College

4:30 - 5:00 — BREAK

* See attachments for listing of Cracker-Barrel Sessions

March 8, 1984 Day 1 March 8, 1984

5:00 - 6:00 CASH BAR

6:00 - 8:00 DINNER

Mistress of Ceremonies: Charlotte Little
Supervisor of Home Economics
Howard County Public Schools

Brief Comments: Addison S. Hobbs
Assistant State Superintendent
Maryland State Department of Education

Introduction of Speaker: A. Thomas Oyster, Supervisor
Vocational and Industrial Education
Washington County Public Schools

Speaker: Alfred W. Pelletier
Chairman of the Board
Mack Trucks, Inc.

Topic: Productivity and Vocational Education

7:30 - 8:30 BREAKFAST

8:30 - 10:00 Perspectives on Productivity

Chair: Marian Goetz
New Directions for Women

Speakers: Thomas Schneck, Comptroller
General Motors Corporation

Rodney Trump, First Vice-President
Local 239, U.A.W.

Reactor Panel: Addison S. Hobbs

James D. Tschechtelin,

Marion Pines

Ray Adcock

10:00 - 10:15 COFFEE BREAK

10:15 - 10:30 Overview of the Action Plan Process
Chair: P. Michael Carey, Director of Career Programs Catonsville Community College

10:30 - 11:30 Cracker Barrel Session Follow-Ups

Coordinator: Mary Ellen Kiss

11:30 - 12:00 Summary/Evaluation

12:00 - 1:00 LUNCH

Adjourn

* See attachments for listing of Cracker-Barrel Sessions

CRACKER BARREL SESSIONS

Day 1 3:15 - 4:30 p.m.
Day 2 10:30 - 11:30 a.m. (Follow-up sessions)

CENTER BALLROOM

Session A: Linkage Projects between LEAs, Two-year Colleges, and Senior Colleges

Resource Person: Robert Clinkscale
Cuyahoga Community College

Day 1 Recorder: Lynne Gilli
Day 2 Recorder: David Miller

Session B: How to Measure Productivity in Occupational Preparation Programs

Resource Person: Thomas Tuttle, Director
The Maryland Center for Productivity and Quality of Working Life

Day 1 Recorder: Kenneth Guy
Day 2 Recorder: Jim Richter

Session C: Issues Concerning Productivity of Special/Non-traditional Populations

Resource Person: TBA

Day 1 Recorder: Jim Smith
Day 2 Recorder: Richard Kiley

WEST BALLROOM

Session D: Vocational Teacher Expectation and Student Productivity: An Overview of TESA

Resource Persons: Thomas Hickman, Principal
Farquhar Middle School, Montgomery County

Beverly Edgell, Reading Specialist
Farquhar Middle School, Montgomery County

Day 1 Recorder: Cecilia Lovette
Day 2 Recorder: George Comegys

CRACKER BARREL SESSIONS
(Continued)

Session E: Importance of Educational Resources to Economic Development: A Perspective on the Resources Within the Baltimore/Washington Region

Resource Person: David Winstead, Executive Director
Baltimore/Washington Regional Association

Day 1 Recorder: Roy Walls
Day 2 Recorder: Hazel Outing

Session F: Training People for Productivity in Industry: Applications to Educational Settings

Resource Person: Peter Hudson, Manager
Skills Development Program,
Westinghouse

Day 1 Recorder: Jack Farmer
Day 2 Recorder: Boyd Robinson

Linkage Projects Between LEAs, Two-Year Colleges, and Senior Colleges
Recorder: Lynne M. Gilli

Due to unforeseen circumstances, the announced resource person for this session, Robert Clinkscale of Cuyahoga Community College, was unable to attend the Conference. Mary Ellen Kiss, Sessions Coordinator, obtained replacements from the Conference attendees. John Walstrum of the Catonsville Community College and Henry Linck of the Carroll Branch of Catonsville Community College agreed on short notice to serve as resource persons for this session. Both gentlemen had experiences with Linkage Projects.

The session began with some remarks from the resource persons regarding "linkage." For the purpose of this discussion, "linkages" was said to include agreements between high schools and colleges on articulation of occupational programs. From that point the input from the people in the session expanded the concept to include such things as...

... granting or waiving college credit to high school graduates

... advanced placement in college programs for high school graduates

... sharing of resources between colleges and secondary systems. (Computer resources were mentioned by participants from Catonsville Community College and Comunity College of Baltimore)

... employing secondary school personnel as part-time college instructors.

The following is a summary of the comments of some of the session participants.

CATONSVILLE COMMUNITY COLLEGE

John Walstrum described their project. The articulation of secondary-level programs and of their program in electronics was used to identify the overlap or common body of knowledge being taught at both secondary and postsecondary levels. A test covering this common knowledge was then developed for the purpose of "by-pass" or advanced placement. The test is given at the secondary school to graduating students. Passing the test gives the student the opportunity of advanced placement and the waiving of some credits toward graduation at Catonsville Community College. The credit is not transferrable. The test currently covers six credits, with expansion to 12 credits not unrealistic at this time.

In another arrangement, Catonsville Community College provides computer ports to assist students in secondary data processing programs. A possible benefit or effect is that the secondary program will adopt characteristics of the Catonsville Community College program, making continuation of the program at the College easier for secondary students. The secondary school benefits from the use of a computer system without having to buy one.

CARROLL BRANCH OF CATONSVILLE COMMUNITY COLLEGE

Henry Linck described a problem created by traditional attitudes in Carroll County regarding what postsecondary education really is. To help develop acceptance of the community college concept, their linkage took the form of employing high school counselors as part-time college instructors.

CHESAPEAKE COMMUNITY COLLEGE

A representative of Chesapeake Community College described an arrangement that was almost identical to that of Catonsville Community College. The difference is that Chesapeake Community College course credits can be transferred.

MONTGOMERY COUNTY SECONDARY SCHOOLS

A representative of Montgomery County Secondary Schools was very interested in developing a linkage project, but so far his efforts at initiating one have been unsuccessful. It was suggested that the mutual benefits of the cooperative arrangement are important and should be identified and communicated.

Training People for Productivity in Industry
Presentor - Peter Hudson, Westinghouse
Recorder: Jack Farmer

The organization's major effort is directed towards re-training its staff for job needs. Programs are modular and competency based. Eventually all complete training. Most of training is on-the-job; however, colleges are used for the professional and managerial employees. Instructors use competency sheets and instruction is self-paced.

Approximately 350 in-house supervisors do the training, for two hours per week. For example, electronic engineers instruct the electronic technicians in the latest state-of-the-art methods.

Louis Nemerofsky, MSDE-DVTE, asked if engineers were doing technicians jobs and the answer given was "seldom." Nemerofsky further commented that technicians could be trained for higher level work, thereby freeing engineers to do engineering tasks. Peter Hudson said that he felt that most of engineers were kept busy doing high level tasks.

The presenter stated that the work force numbers 16,000 in his plants of which 5,000 are in operations (factory), 3,000 are engineers, and the balance in various other activities. There are 15 product lines, each with its own training section that reports directly through the product line heirarchy.

Joseph DeSantis, DVTE, questioned the methods of costing. Hudson responded that training costs are included in the budget for any product line. Eileen Oickle, Charles County Public Schools, asked how much money was devoted to training. The exact figures were not available, according to Hudson, but a considerable number of hours are devoted to training.

Frank Carricato, Montgomery Public Schools, raised questions about the types of training. The response was that Westinghouse has, from time to time, used University of Maryland, Baltimore County to train instructors. All materials of instruction are produced in-house and usually related to new technology.

Another question dealt with whether neighboring LEAs and community colleges have ever been contacted to do training for them. Mr. Hudson said that staffing problems hinder them from advising Westinghouse or other industries on what is available. Sometimes the competitive situation is a barrier.

Hudson indicated that all employees are encouraged through a tuition reimbursement plan to forward their educational goals if they are related to present or future job requirements at Westinghouse.

A question raised was whether Westinghouse trained in-house because they did a better job than if they contracted out. Hudson said the immediacy of the need, time restraints and competitive situation often demand that outside vendors not be used. He indicated that Westinghouse would be responsive to any suggestions to enhance cooperation with local education as long as it falls into the parameters on which they must operate.

According to Hudson, Westinghouse cooperates with several four-year colleges in the area with an internship program. It is their policy to promote from within whenever possible. Upward mobility is a policy. Training is continous education with both outside and in-house instruction aimed at meeting the demands of rapidly changing technology.

Training People For Productivity In Industry:
Applications In and Meaning For Education

Richard Kiley

The major topics from the discussion are listed below:

1. Need to stress quality and productivity in classroom.
2. Need to establish achievement values in teachers.
3. Need to convince business to recognize human values and students to understand business needs.
4. Need to convince special needs populations and businesses that the former can be high quality-productive workers.
5. Involve students in industry-based structured observations.
6. Stress teacher follow-through in the classroom.
7. Have teachers engage in industry internships as part of vocational requirements.
8. Have teachers become role models for quality productivity.
9. Bring in role models from outside.
10. Emphasize the teaching of positive work habits and attitudes.
11. Determine needs of business and industry community objectives.
12. Provide models for productivity within our own institutions.
13. Develop curriculum materials related to the concept of productivity.
14. Identify business needs. (#11)
15. Bring in industry representatives for classroom assistance clarifying industry needs. (#9)

The statements above were highlights of this group session:

After identification of the issues listed above, the members of the group focused upon three of them. They are listed below, along with recommended actions for each.

Local Issue #1: (#11) Determine needs of business and industry community objectives.

Recommended Action

1. Survey;
2. Communicating with groups on a one to one basis;
3. After surveys are completed, members should meet and plan goals and objectives to address needs so that understanding may occur.

Local Issue #2: (#16) Seek ways to improve the quality of work life.

Recommended Action

1. Strengthen career guidance;
2. Arrange structured experiences for students and teachers in business and industry;
3. Develop structured linkages between vocational education and guidance.

Local Issue #3: (#10) Emphasize the teaching of positive work habits and attitudes.

Recommended Action

1. Incorporate the study and implementation of positive work habits and work attitudes into the curriculum;
2. Design student assessment systems that would incorporate work habits and work attitudes into grades.

Evaluation: Spring 1984 Conference

The participants were provided with evaluation forms for the four major activities of the conference. The items assessed within each major activity, their objectives, numerical ratings, and descriptor, are depicted in Tables 1,2,3,4. Since three basic groups of participants were involved in the event, t-test analyses were used to identify items within each activity in which ratings were significantly different (see Tables 5, 6, 7, 8).

The 44 items were rated either "good" or "excellent" by the participants as a single group. Of the 132 possible comparisons of ratings, significant differences between groups (e.g. secondary, two year college, and state agency participants) were found for 12 of them. Five of these focused upon the dinner presentation.

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MARYLAND VOCATIONAL ADMINISTRATORS' CONFERENCE (3/84)

PARTICIPANT INSERVICE EVALUATION FORM

TABLE 1

* Significant at .05 or more

Groups Comparisons of Activities (by t-tests)

Directions: Please record your evaluation of the following aspects of the activity "Baltimore City Economic Development/Vocational Education: Follow-through by circling the appropriate number.

	Groups Compared		
	1 vs 2	1 vs 3	2 vs 3
1. Clarity of objectives			
2. Achievement of objectives			
3. Quality of the content			
4. Effectiveness of major presenter(s)			
5. Quality of the materials			
6. Appropriateness of facility	*		
7. Appropriateness of group participation			
8. Suitability of format			
9. Effective use of time			
10. Relevance to your work			
11. Effectiveness of activity overall			

OBJECTIVE 1: To provide useful information regarding cooperative activities between local and state level economic development agencies and vocational education leaders.

OBJECTIVE 2: To provide participants with guidelines and approaches relativ to vocational education and economic development.

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MARYLAND VOCATIONAL ADMINISTRATORS' CONFERENCE (3/84)

PARTICIPANT INSERVICE EVALUATION FORM

TABLE 2

* Significant at .05 or more

Groups Comparisons of Activities (by t-tests)

Directions: Please record your evaluation of the following aspects of the Cracker Barrel Sessions and the Follow-Up by circling the appropriate number.

	Groups Compared		
	1 vs 2	1 vs 3	2 vs 3
1. Clarity of objectives			
2. Achievement of objectives			
3. Quality of the content			
4. Effectiveness of major presenter(s)			*
5. Quality of the materials			
6. Appropriateness of facility			
7. Appropriateness of group participation		*	
8. Suitability of format		*	
9. Effective use of time			
0. Relevance to your work			
1. Effectiveness of activity overall			

OBJECTIVE: To provide participants with opportunities to exchange viewpoints on several issues relating to productivity, articulation, economic development, and vocational education.

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MARYLAND VOCATIONAL ADMINISTRATORS' CONFERENCE (3/84)

PARTICIPANT INSERVICE EVALUATION FORM

TABLE 3

* Significant at .05 or more

Groups Comparisons of Activities (by t-tests)

Directions: Please record your evaluation of the following aspects of the dinner presentation by circling the appropriate number.

	Groups Compared		
	1 vs 2	1 vs 3	2 vs 3
1. Clarity of objectives			
2. Achievement of objectives			
3. Quality of the content			
4. Effectiveness of major presenter(s)	*		
5. Quality of the materials			
6. Appropriateness of facility	*		
7. Appropriateness of group participation			
8. Suitability of format			
9. Effective use of time	*		*
10. Relevance to your work			
11. Effectiveness of activity overall	*		

OBJECTIVE:
To provide participants with useful information regarding the perceptions of an industrial leader on relationships of vocational education with the business/industrial community.

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MARYLAND VOCATIONAL ADMINISTRATORS' CONFERENCE (3/84)

PARTICIPANT INSERVICE EVALUATION FORM

TABLE 4

* Significant at .05 or more

Groups Comparisons of Activities (by t-tests)

Directions: Please record your evaluation of the following aspects of the activity "Perspectives on Productivity" by circling the appropriate number.

	Groups Compared		
	1 vs 2	1 vs 3	2 vs 3
1. Clarity of objectives			
2. Achievement of objectives			
3. Quality of the content	*		
4. Effectiveness of major presenter(s)			
5. Quality of the materials			
6. Appropriateness of facility	*		*
7. Appropriateness of group participation			
8. Suitability of format			
9. Effective use of time			
10. Relevance to your work			
11. Effectiveness of activity overall			

OBJECTIVE: To provide useful information that would enable participants to identi important factors associated with productivity and relationships to vocational education.

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MARYLAND VOCATIONAL ADMINISTRATORS' CONFERENCE (3/84)

PARTICIPANT INSERVICE EVALUATION

TABLE 5

Directions: Please record your evaluation of the following aspects of the activity "Baltimore City Economic Development/Vocational Education: Follow-through by circling the appropriate number.

		Average	Descriptor
1.	Clarity of objectives	3.674	Good
2.	Achievement of objectives	3.524	Good
3.	Quality of the content	3.558	Good
4.	Effectiveness of major presenter(s)	3.605	Good
5.	Quality of the materials	3.267	Good
6.	Appropriateness of facility	3.690	Good
7.	Appropriateness of group participation	3.366	Good
8.	Suitability of format	3.628	Good
9.	Effective use of time	3.395	Good
10.	Relevance to your work	3.073	Good
11.	Effectiveness of activity overall	3.395	Good

Legend:
4.1 - 5.0 Excellent
3.1 - 4.0 Good
2.1 - 3.0 Average
1.1 - 2.0 Fair
0.1 - 1.0 Poor

OBJECTIVE 1: To provide useful information regarding cooperative activities between local and state level economic development agencies and vocational education leaders.

OBJECTIVE 2: To provide participants with guidelines and approaches relative to vocational education and economic development.

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MARYLAND VOCATIONAL ADMINISTRATORS' CONFERENCE (3/84)

PARTICIPANT INSERVICE EVALUATION

TABLE 6

Directions: Please record your evaluation of the following aspects of the Cracker Barrel Sessions and the Follow-Up by circling the appropriate number.

		Average	Descriptor
1.	Clarity of objectives	3.897	Good
2.	Achievement of objectives	3.769	Good
3.	Quality of the content	3.784	Good
4.	Effectiveness of major presenter(s)	3.811	Good
5.	Quality of the materials	3.567	Good
6.	Appropriateness of facility	4.026	Excellent
7.	Appropriateness of group participation	4.263	Excellent
8.	Suitability of format	4.128	Excellent
9.	Effective use of time	3.846	Good
10.	Relevance to your work	3.737	Good
11.	Effectiveness of activity overall	3.797	Good

OBJECTIVE: To provide participants with opportunities to exchange viewpoints on several issues relating to productivity, articulation, economic development, and vocational education.

Legend:
4.1 - 5.0 Excellent
3.1 - 4.0 Good
2.1 - 3.0 Average
1.1 - 2.0 Fair
0.1 - 1.0 Poor

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MARYLAND VOCATIONAL ADMINISTRATORS' CONFERENCE (3/84)

PARTICIPANT INSERVICE EVALUATION

TABLE 7

Directions: Please record your evaluation of the following aspects of the dinner presentation by circling the appropriate number.

	Average	Descriptor
1. Clarity of objectives	4.194	Excellent
2. Achievement of objectives	4.028	Excellent
3. Quality of the content	4.250	Excellent
4. Effectiveness of major presenter(s)	4.194	Excellent
5. Quality of the materials	4.115	Excellent
6. Appropriateness of facility	4.222	Excellent
7. Appropriateness of group participation	3.654	Good
8. Suitability of format	4.139	Excellent
9. Effective use of time	4.143	Excellent
10. Relevance to your work	4.171	Excellent
11. Effectiveness of activity overall	4.167	Excellent

OBJECTIVE: To provide participants with useful information regarding the perceptions of an industrial leader on relationships of vocational education with the business/industrial community.

Legend:
4.1 - 5.0 Excellent
3.1 - 4.0 Good
2.1 - 3.0 Average
1.1 - 2.0 Fair
0.1 - 1.0 Poor

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MARYLAND VOCATIONAL ADMINISTRATORS' CONFERENCE (3/84)

PARTICIPANT INSERVICE EVALUATION

TABLE 8

Directions: Please record your evaluation of the following aspects of the activity "Perspectives on Productivity" by circling the appropriate number.

		Average	Descriptor
1.	Clarity of objectives	4.316	Excellent
2.	Achievement of objectives	4.167	Excellent
3.	Quality of the content	4.162	Excellent
4.	Effectiveness of major presenter(s)	4.459	Excellent
5.	Quality of the materials	3.964	Good
6.	Appropriateness of facility	4.053	Excellent
7.	Appropriateness of group participation	4.000	Excellent
8.	Suitability of format	4.105	Excellent
9.	Effective use of time	4.184	Excellent
10.	Relevance to your work	4.053	Excellent
11.	Effectiveness of activity overall	4.184	Excellent

OBJECTIVE: To provide useful information that would enable participants to identify important factors associated with productivity and relationships to vocational education.

Legend:
4.1 - 5.0 Excellent
3.1 - 4.0 Good
2.1 - 3.0 Average
1.1 - 2.0 Fair
0.1 - 1.0 Poor

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Part II
Fall 1984

A G E N D A: FALL 1984

Day 1

MARYLAND VOCATIONAL ADMINISTRATORS' CONFERENCE
Sheraton Hotel: Salisbury

Conference Director: Dr. Angelo C. Gilli, Sr.

THEME: Fostering Cooperation between Vocational Education and the Community

October 4, 1984

9:30 - 12:00	REGISTRATION Coffee
10:00 - 12:00	LEA Directors' Meeting Joseph Ramach, Chair Two-Year College Occupational Deans Dr. Dennis Bartow, Chair
12:00 - 1:00	LUNCH
1:00 - 2:15	Host: Dr. Donald Maley, Chairman Department of Technological & Occupational Education University of Maryland, College Park Greetings: Henry Parker, President Wicomico County Council Speaker: Dr. Michael D. Usdan, President Institute for Educational Leadership Washington, D.C. Topic: Enhancing Connections between Vocational Education and the Business/Industrial Community
2:15 - 2:30	COFFEE BREAK
2:30 - 4:00	Small Group Discussions Dr. Mary Ellen Kiss, Chair (See attachments for details)
4:00 - 5:00	BREAK

5:00 - 6:00 HAPPY HOUR (Riverhouse Lounge)

6:00 - 8:00 DINNER (Ballroom)

Mistress of Ceremonies: Marian Goetze
Former Executive Director & Founder
New Directions for Women

Brief Comments: Addison S. Hobbs
Assistant State Superintendent
Maryland State Department of Education

Dinner Speaker: Dr. Cleveland L. Dennard, President
Dennard and Company
Atlanta, Georgia

Topic: Cooperation between the Business/Industrial Community and Vocational Education

October 5, 1984

DAY 2

7:30 - 8:30	BREAKFAST
8:30 - 9:45	Presentations:
	Chair: Dr. Leon Copeland Industrial Education & Technology University of Maryland, Eastern Shore
	Presenters: Clarence Johnson Supervisor of Vocational Education
	Willard Mumford, Chair Engineering and Technology Division Anne Arundel Community College
	Topic: Linkages between Secondary/ Postsecondary Vocational Programs and Other Community Agencies
9:45 - 10:00	COFFEE BREAK
10:00 - 11:30	Small Group Discussion (See attachments for details)
11:30 - 12:00	Evaluation/Summary
12:00 - 1:00	LUNCH
1:00	Adjourn

GROUP DISCUSSIONS

Thursday, October 4 2:30 - 4:00 p.m.

Resource Person/Facilitator

#1 - Ms. Kathleen Snyder
Specialist to the Superintendent
for Business and Industry
Prince George's County Public Schools

Topic Sponsor-a-School Program -- An overview of this unique arrangement with business was be provided; specific activities in which the schools and their sponsor companies were discussed; the business-industry advisory council, its formation and functions was also included.

#2 - Ms. Susan Axelson
Field Service Branch Manager
Digital Equipment Corporation

Ms. Veronica Norwood
Director of Contract Services
and Employment Training Programs
Prince George's Community College

Topic Business-Education Partnerships That Work -- A unique partnership with Digital Equipment Corporation (DEC) was presented; activities involving the Community College, the Public School System and DEC were discussed; the focus was on how a comprehensive, systematic, articulated partnership with one industry and one local jurisdiction evolved and is implemented.

#3 - Mr. John Hamilton
Coordinator for Business & Industry
Dundalk Community College

Topic Customized Training for Business and Industry -- The marketing techniques and strategies used by one Community College for outreach to business was presented; a video-tape tool was demonstrated; an overview of DACUM and how this technique is used to form mutually beneficial education-industry partnership was also presented.

GROUP DISCUSSIONS

Thursday, October 4 2:30 - 4:00 p.m.

#4 Ms. Elaine Saunders
Senior Program Manager
Junior Achievement of Metropolitan
Washington, Inc.

Topic How Junior Achievement Programs Help Promote Linkages with Business and Education -- An overview of the Junior Achievement program was presented; models of implementation were provided; a discussion of the various types of programs sponsored by J.A. and how schools can participate in this unique program were covered.

#5 - Dr. Joseph Testa
Associate Dean of Instruction
Essex Community College

Topic Responding to the Needs of Business -- A discussion of how one industry has gained through its partnership with one community college was conducted; an overview of the activities with General Motors Corporation was presented; and issues, both pro and con, regarding education-business arrangements were also discussed.

#6 - Dr. Michael Parsons
Dean of Instructional Affairs
Hagerstown Junior College

Topic Linkages with Economic Development -- A follow-up of the linkage project among Hagerstown Junior College, Washington County Public Schools and the Economic Development Office were presented; a video-tape summarized the results of this year-long project; benefits of this type of articulation were discussed.

GROUP DISCUSSIONS

Friday, October 5 10:00 - 11:30 a.m.

Resource Person/Facilitator

#7 - Dr. Gene Bottoms
Executive Director
American Vocational Association

Topic Promoting Business-Education Partnerships Through Vocational Education -- An overview of secondary programs of national significance were provided; the role that AVA plays in promoting business-education partnerships was discussed; national legislation and potential funding sources were addressed.

#8 - Dr. Dorothy Fenwick
Associate Director
Office on Educational Credit and Credentials
American Council on Education

Topic The Business Forum: A Source of Business-Education Programs That Work — An overview of the activities undertaken by the American Council on Education was provided; sources of information and selected resource programs was presented; exemplary models of postsecondary partnership programs were discussed.

#9 - Mr. Walter Purdy
Director of Educational Services
Edison Electric Institute

Topic Industry-Education Coordinating Councils: A Vehicle for Promoting Partnerships -- An overview of the National Association for Industry-Education Coordination was presented; the role and formation of Industry Education Coordinating Councils was discussed; examples of model councils and their activities were provided.

GROUP DISCUSSIONS

Friday, October 5 10:00 - 11:30 a.m.

#10- Dr. Frank Mensel
Vice President for Federal Relations
American Association of Community and
Junior Colleges

Topic Keep America Working: An Overview -- This AACJC sponsored program was discussed; the goals, objectives and activities conducted were presented; projects of national significance that focus on interagency and private sector articulation were provided.

#11- Dr. Sheila Tolliver
Executive Assistant for Education
State House Annapolis

Mr. Michael Morton, Executive Director
Maryland State Advisory Council
Vocational Technical Education.

Topic Legislative Issues: Enhancing Education's Ability to Work With Business -- An overview of State legislation that impacts on industry-education linkages provided; existing and proposed legislation was discussed; suggested legislative thrusts by participants were solicited.

#12- Mr. Jeffrey Samet, City Venture Corporation.

Topic Private Sector Ventures with Education: Raising Capital -- An overview of the City Venture Corporation was provided; examples of activities with education were presented; sources of revenue for business-education ventures were discussed, as well as the mechanics of obtaining venture capital.

Enhancing Connections Between Vocational Education
and the Business/Industrial Community
by
Michael D. Usdan

It is a great privilege to be asked to address this distinguished group and I am honored at the invitation to share some of my thoughts about the future of the field of educational administration in a rapidly changing social, political and economic environment. These profound changes in addition to the technological revolution which is so reshaping our lives compel us as never before to understand the larger societal context in which educational administration operates.

What are some of the major issues which will so markedly influence our future and have such consequential ramifications for educators at all levels? My favorite philosopher is Pogo who says that we are surrounded by insurmountable opportunities. I believe that this is indeed the case in education where the recent spate of nationally publicized reports has given our enterprise positive "front-burner" public visibility in ways that have not been experienced since the Sputnik era more than two decades ago. If one accepts the old adage that invisible politics is poor politics, then we should capitalize on the existing window of opportunity and the new saliency of education by integrating our education objectives and aspirations into the mainstream of major public policy issues and concerns as expeditiously as possible. Indeed, some skeptics are fearful that the educational balloon may be deflated as quickly as it was inflated once the political rhetoric and the freshness of the recent highly publicized national reports have abated. In fact, the past year or so may have provided a unique window of opportunity as President Reagan and the democratic presidential candidates debated school issues in the quadrennial national election. Education during this period will benefit not only from the special visibility provided but also from the very recent interest manifested in school issues by many of the nation's civic and political elites. A growing number of the nation's most prestigious business and governmental leaders are now espousing the importance of the schools to the nation's economic development and comprehensive reform legislation has been enacted in states like California and Florida. Governors like Hunt of North Carolina, Dupont of Delaware, Robb of Virginia, Alexander of Tennessee, Winters of Mississippi and others are in the forefront of political and economic efforts to strengthen the quality of and support base for education. Business leaders from major corporations such as IBM, Control Data, Hewlett-Packard, the Bank of America, Proctor and Gamble, and numerous other representatives from the private sector throughout the country are becoming engaged in school issues in unprecedented and varied ways.

Major national business organizations such as the Committee for Economic Development, the Chamber of Commerce, the National Alliance of Business, the Business Roundtable, and their counterparts at the state and local levels are undertaking education-related activities or discussing the significance of school issues with unusual interest and even zeal in a number of cases. Education is being viewed more commonly now not as a consumer of resources but as a necessary investment in human capital and the nation's economic viability.

How then do we in the field of education react to this recent attention our field has received from the elite centers of economic and political power in our society? Do we react defensively and wait it out? Or do we seize the moment when economic development appears to be the supporting lever for education that Sputnik and defense were years ago and capitalize upon what may be a rather rare opportunity to strengthen our enterprise by broadening its constituency while candidly acknowledging its weaknesses? In my estimation, we have no choice but to subscribe to the latter strategy. A train of momentous size and consequential impetus has left the station and we either board and become a vital part of its more diversified crew or risk being left behind in irrelevance as a series of interrelated issues impinge most significantly upon not only our schools but also every other major institution in our society.

I would like to identify and focus these remarks upon a few of these transcendent issues emphasizing, of course, their particular implications for educational leaders. Among these somewhat interrelated issues are (1) the need to develop and invest in human resources; (2) the implications of changes in the nation's demography; (3) the importance of reconfiguring and redefining education; (4) the impact of technology on educational and economic development: (5) the ramifications of an aging and changing work force; (6) the special and acute problems of urban and minority youth; (7) the significance of foreign language instruction in a shrinking and interrelated world; (8) the importance of sustaining the recent reengagement of socio-economic elites in education matters; (9) the need for more systematic articulation between and among educational levels at a time of declining resources; (10) the need to define and achieve quality at all educational levels; and, (11) the development of an appropriate federal role in the shaping of educational policy. These eleven issues, of course, hardly represent either a comprehensive or all-inclusive litany of major concerns. Some of these issues will be discussed relatively extensively while others will be alluded to briefly or barely mentioned. Collectively, however, they do form the basis for a realistic projection of a change-laden scenario that will influence the entire society as well as educational administration in rather consequential ways.

As mentioned earlier, the importance of the schools in recent months has been discussed in the newer and broader context of their central role in the collaborative efforts that will be necessary if the nation's economic productivity is to be improved, its relative economic decline counteracted, and the erosion of its international competitive position arrested. Schools are pivotal to these national concerns as is the growing awareness that education remains the key to maximizing the nation's human capital and economic development. Support for education in the business community, for example, increasingly is being viewed not as mere philanthropy but as sheer self-interest. The economy and its needs, in other words, are the contemporary Sputnik and serve as a lever for the support and reform of the educational interprise. In essence, the key to education's new salience is the society's need to develop its human capital at all age levels with emphasis not just on the traditional school age youngsters and institutions but also on the large numbers of adults who need retraining in a period when the economy is undergoing such wrenching economic transformations. Education, then, must be defined more generically as consisting of much more than formal elementary and secondary schools or colleges serving the younger segment of the population.

There is a growing appreciation throughout the society that human resources are the dominant factor accounting for growth in national income and that they account for the major share of the nation's total economic output. Recognition is mounting that the current economic challenge is as fundamental as the change from an agrarian to an industrial economy after the Civil War and that education must link inextricably to economic development and be viewed as an essential investment in the future.

Demographic as well as economic changes are of particular importance to educators as well as to the entire society. In a world in which approximately 75 percent of the total population is of color, we are going to have to redefine what the words "majority" and "minority" mean. Indeed, 25 percent of our public school population already is of minority origin, and the proportion of Black, Hispanics, Asian-Americans and Native-Americans continues to grow. By 1990, 25 percent of the total population will be minority. In the 1982-83 school year, for example, 46 percent of the public school enrollment in Texas was minority, 43 percent was minority in California, 32 percent in Florida and New York, 33 percent in Arizona and Maryland, 28 percent in New Jersey, and 57 percent in New Mexico.

The Hispanic population is the fastest growing segment of the minority population with approximately two-thirds of the nation's Hispanics being located in only three states (California, Texas, and New York). Some 85 percent of the Hispanic population lives in only eight states (New Jersey, Florida, Colorado, Illinois, and Michigan in addition to the aforementioned three states). This dramatic skewing of the distribution of the Hispanic population creates a serious problem of demographic illiteracy as most of the country remains blissfully ignorant of the full import of

the dramatic growth in the number of Hispanics. Indeed, most Hispanic females have yet to reach their childrearing years so additional increases in the Hispanic population are inevitiable.

California, our largest state, by 2000 will be "majority-minority". Twenty-three of 25 of our largest school systems already are "majority-minority" and unless we improve the quality of the education and life chances of these massive cohorts of minority youngsters, the social fabric of our society may well be imperiled.

Another demographic imperative must be stressed. The growth of the Sunbelt vis-a-vis the Frost and Rainbelts is a reality with the concomitant shift in geopolitical power to the South and West which by 1990 will exceed the North and East in population for the first time.

The demographic phenomenon of "gray power" also will be of increasing significance as the population ages and the number of citizens 65 years of age and older rapidly expands. By 1990, the numbers of youngsters under 20 will fall below 30 percent of the nation's population for the first time history. In fact, in 1983, there are more people 65 years of age or older than teenagers. The implications of these changes are brought forth starkly by an analysis of the ratio of working to retired people. In 1940, ten citizens worked for every retired person, in 1980 the ratio was three to one and a two to one ratio is projected for 1990. By 2010, a negative ratio of workers to retired persons in quite likely.

Thus, growing numbers of retired individuals will be dependent upon a younger population, increasingly minority in composition, to sustain the economy in general and to maintain the stability of a rather vulnerable social security system.

Some other rather sobering information must be noted for educational administrators. It is estimated that 90 percent of the 1990 workforce and 75 percent of the 2000 workforce already are employed in the market place. Thus, schools will be dealing with only 10 percent of the new workforce, a full one-half of whom will be minority youth who will constitute, as noted earlier, a much higher percentage of the decade's diminished youth cohort. It is estimated that by 2000, approximately one-third of the young will be socially and/or economically disadvantaged.

These rather startling numbers reflect compellingly why education will have to broaden its base of political support with only 20 percent of the population having youngsters enrolled in the schools. Educational leaders can no longer assume the public support they could generate, for example, when 60 or 70 percent of the population had children in the schools in the rapid growth year after World War II. Schools will have to reach out to cultivate new and broader constituencies if they are to acquire the necessary support as older citizens and other groups make increased demands for services in a period of declining resources. Public schools will

have to be viewed as a civic responsibility by the majority of the population which will not have children involved or a direct stake in the educational process. Educators can no longer assume that they have a broadly gauged support base and certainly cannot afford the luxury of pulling the wagons around in a circle and shooting inwardly as has often been the case in the intramural or internecine warfare which has occurred with some frequency over collective bargaining, church-state relationships, funding allocations, desegregation, interlevel responsibilities, and other issues.

As part of the efforts to broaden their support base, educational leaders will have to reconfigure and essentially redefine education as constituting more than just traditional schools or formal institutions of learning. The expanded coalition which they will be compelled to build should include preschool children, senior citizens, the numerous older workers who will have to be retained, and others in the society who will require educational opportunities in a changing economy. Multi-agency and collaborative human service thrusts within the public sector and growing partnerships between the public and private sectors will become more essential as resources decline. Educators have unique social and institutional penetration into the grassroots of virtually every community. This outreach will be a great asset to them in efforts to reach out politically not only to buttress and expand their own support base but also as they seek to help fill the escalating needs of groups such as senior citizens, older workers who need retraining, and the growing requirements of single parents and latchkey children.

Educational leaders must also recognize to a greater degree than they have thus far the incredibly diverse and extensive array of non-mainstream educational service providers such as industry, labor union, some 9,000 proprietary schools and colleges, 300 businesses with a site called "college" or "university," the far-flung and extensive military educational system, hospitals which provide their own educational programs, major service agencies with educational programs such as the Girl Scouts and United Way, diverse day care centers, and so on almost ad infinitum.

Industry, for example, invests approximately $40 billion in education and training, a total which rivals the investment made in traditional higher education. Control Data spends hundreds of millions of dollars in its Plato system and innumerable other corporations such as IBM, Xerox, and General Motors are allocating substantial resources to improve the quality of education and training received by their employees. Wang and A. D. Little actually offer degrees under the aegis of their corporate educational activities. Such nontraditional post-secondary educational enterprises already are educating three of four adults in the nation. This is hardly an inconsequential shadow system and educators must be more cognizant of the collaborative opportunities as well as the potential competitiveness of this somewhat parallel and non-traditional system.

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The area of technology challenges the entire society and certainly education with a host of challenges and opportunities. The unprecedented technological revolution which confronts us will reshape virtually every facet of our lives in varied and unpredictable ways. The world of computers, discs, satellites, and so forth is upon us and our young people from all socio-economic backgrounds will be motivated in new ways to partake in the technological era which has dawned. Millions of games of PacMan, for example, are played on a daily basis and many young people who purportedly are unmotivated and do poorly in school manifest remarkable mind-hand dexterity in performing on the console. Indeed, most of us over 20 or 25 are pathetically uncompetitive with the youngsters in these new national pastimes.

Fields like science and math, of course, are essential for technological progress and our society's need for well educated citizens in these areas increasingly is being recognized. The crisis in math and science education already is generating significant changes in educational policy which would not have been politically viable just a short time ago. Notions like merit pay, differential salaries and roles for teachers, and the recruitment of part-time teachers from the private sector or the ranks of the retired would not have received serious attention in either state legislatures or the U.S. Congress without the widespread national consensus that our economic development is inextricably linked to the quality of our schools and that our national's scientific literacy cannot be permitted to lag any longer if we are to compete in an increasingly interdependent world economy.

The reality is that the tempo of economic and technological change is such that partnerships between the public and private sectors are essential. There simply is no way in which schools or other public entities can maintain state-of-the-art equipment or keep up with the new technologies. Creative tax and related policies must be developed which facilitate intersector collaboration if we are to meet the international economic challenges from nations like Japan and West Germany.

The changes which are shifting the foundations of our economy obviously have deep ramifications for educators. Dramatic and continuing reductions in the manufacturing or industrial areas will require the development of a workforce better able to perform in the information and service providing realms. We will thrive if we sell our wits - if not our goods - to the world and our major future resource is brainpower. This rapid and wrenching transformation of the economy has promising and dramatic implications for educators.

The schools must respond to these new realities. If they do not, the private sector surely will react. The challenge educationally is not only to improve basic skills but also to react to the changes in occupational context which will compel more workers to shift from "take/place/lift/put" jobs to work

like computer programming which requires listening and reasoning skills as well as adequate backgrounds in fields like math and science. These challenges cannot be met by single sector approaches. As a society, we can no longer afford the luxury of fragmentation or "turfsmanship." The challenges will require institutional collaboration between and among education, business, labor and government. Education and training must be viewed more generically and as a multi-sector and societal responsibility in which we all have a stake and role. The Digital Corporation, for example, allocates from ten to 20 percent of the time of its engineers and other highly skilled personnel for in-service training so that they can keep abreast of the phenomenal rate of technological change which gives the schooling of a newly-graduated engineer only a five year period of relevancy. Organized labor also is acutely aware of the continuing need of reeducating and retraining its members. Indeed, the recent General Motors United Auto Workers contract explicitly provided 15 cents per hour per employee for training or educational activities.

As a society, we can no longer afford two or three parallel and costly education systems which rarely if ever interact and collaborate. We are no longer rich or wealthy enough to afford such costly duplication and fragmentation. Business, for example, is compelled to spend millions of dollars on remedial education; a responsibility which quite logically could have been assumed to have been within the purview of the schools. AT&T, which spends some $1.7 billion annually for educationally related activites, expends considerable money teaching 14,000 employees basic writing and arithmetic skills. Metropolitan Life, similarly, devotes over 40 percent of its training program to remedial work in the basics.

Despite these problems, the United States has great advantages once we get our act together and generate the necessary intersector linkages. We have a strong base and tradition as a creative entrepreneurial society, and our schools despite their weaknesses have produced a uniquely well educated and adaptable population. Parenthetically, it is important to point out to educators that they should not limit their efforts to build partnerships with the private sector only to large corporations. Approximately 580,000 small businesses are started each year in this country and two-thirds of the new jobs are created in smaller enterprises. Thus, the opportunities for partnerships between education and business in many cases can be more effectively developed at the local or regional level where much of the action, if not the rhetoric, takes place.

A dominant and recurrent theme articulated in all of the recent reports on education relates to the concern about the quality of

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the teaching force. There is widespread consensus that any efforts to strengthen education must be predicated upon improving the socio-economic status and intellectual caliber of the classroom teachers who are at the core of the educational enterprise. In recent years, with the constraints on governmental spending, there has been a drain of talent from the public sector and service fields in general. Teaching without question is not attracting our "best and brightest" young people and more vigorous attempts must be made to replenish and strengthen the ranks of those responsible for developing the future intellectual capital which is so vital to our security and well-being.

The problem is most acute, of course, in areas like math and science where the economic and status rewards of teaching cannot begin to compare with the salaries and recognition available to talented individuals in business and industry. We have finally recognized that we have a crisis of national proportions with approximately only one-half of our math and science teachers appropriately certified. Throughout the country numerous proposals are being made to differentiate roles and salaries, develop merit pay schedules, and recruit part-time instructors from the private sector as efforts intensify to attract and retain talented teachers. A number of school districts have already implemented such plans, and recently states like Florida and California, among others, have enacted comprehensive reform legislation which has included provisions for merit compensation or differential categories of teachers who would receive extra pay.

The quality issue has been exacerbated by the fact that women, who still constitute approximately two-thirds of the nation's classroom teachers, now have expanded career options. Talented and intellectually able women who in the past entered teaching because it was the traditional and logical thing for them to do are now entering other professional fields. Within the past decade or so, a "perverse form of indentured servitude" has been clearly weakened as our most talented women quite appropriately select a much broader range of career options. For example, in 1965 only 6.5 percent of medical school graduates were female, in 1980 the percentage soared to 23.4 percent; comparable figures for law school graduates were 3.2 percent in 1965 and 30.2 percent in 1980 respectively. In 1950, only an infinitesimal 0.3 percent of the engineering graduates were women, by 1980, 8.8 percent were female. It is reasonable to assume that many of these women doctors, lawyers, and engineers in prior years would have been school teachers. Their loss to education, of course, and the continuing expansion of career opportunities for able women further compound the problem of attracting into teaching adequate numbers of our most intellecutally able young people.

No litany of major educational issues can or should ignore some mention of the acute problems of urban and minority youth. The saliency of the demographic changes and concomitant growth in

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minority population were discussed in some detail at the outset of this presentation. Special attention, however, must be focused upon the shocking reality that almost one-half of black teenagers have no jobs and that youth unemployment is higher than 20 percent, more than twice the overall unemployment figure for the country. These numbers project starkly the danger of our urban schools becoming, in one college president's words, "warehouses for the angry or staging areas for anarchy."

In addition to the traditional morally compelling arguments for equity or the equalization of educational opportunity, there are now selfish, vested-interest reasons for wanting to improve big city schools whose student population will be 90 percent minority by 1990. As the demographic data reflect, our population is aging and shrinking cohorts of young people must be productive to generate the revenues necessary to support services in a changing economy. More of these youngsters obviously will be of minority origin and they represent valuable human resources which our nation and economy cannot afford to fritter away. Indeed, there will be a 20 percent reduction in the entering workforce in the 16 to 24 year old age bracket through 1990. These numbers indicate that we need to develop the capabilities of all of our youth to their fullest potential. We must substantially improve our 35 to 45 percent high school dropout rate and as one cynical realist says (hopefully with tongue in cheek), "let us forget justice and think profits and economic survival."

Another issue warranting some discussion is the appalling decline in language training in a shrinking world with an interdependent global economy. A persuasive case can be made that our competitive position economically is weakened because of the deterioration in both the quality and quantity of our foreign language instruction. Many Japanese and Europeans, for example, know and speak our language. The numbers of our citizens able to converse in other tongues is absymally limited. Our businesses thus have a distinct disadvantage in areas like marketing and sales vis-a-vis their foreign competitors. The statistics tell the story more graphically than words. Only 15 percent of our high school students currently study foreign languages, the figure was 24 percent in 1965. Only five percent of high school students study foreign languages beyond the second year and just eight percent of our institutions of higher education require students to have studied a foreign language; in 1966, 34 percent of the institutions required such instruction for admission. These shocking numbers should encourage us to welcome many new citizens who have the advantage of speaking languages other than English. These new residents who can speak Spanish and other languages can prove to be valuable economic resource as we seek to improve our international economic position.

An encouraging by-product of the recent attention being focused upon education has been the concern for schools being expressed by many of the nation's most prestigious business, civic, and

political leaders. This involvement of numerous governors and private sector leaders well as the unique pulpit which the President provides is of singular importance to the schools. In recent years, our socio-economic elites have disengaged from school matters. The heated controversies in the 1960s and early 1970s swirling around issues like school desegregation, collective bargaining and teacher strikes, student and community power, finance issues, and church-state relationships engulfed the schools as well as other basic societal institutions. The volatility of these problems was without question a deterrent to the involvement of many socio-economic influentials who were wary of either becoming personally engaged or having their businesses involved in such controversial and often "no-win" issues. These factors also have caused many influential citizens to decline service on school boards thus further weakening the lay support base for education.

Indeed, if the recent interest in education manifested by influential political and business leaders is to be sustained, there may be the need to resuscitate citizen involvement by creating mechanisms analagous to the National Citizens Commission for the Public Schools and the National Committee for Support of the Public Schools. These organizations which were created to generate support for education in the post World War II period became valuable institutional mechanisms through which some of the country's most prestigious citizens could publicly manifest their support for and commitment to public education. Among these influentials were individuals like Harvard president James B. Conant, publishers Roy Larsen and Henry Luce, General Omar Bradley, novelist John Hersey, President Harry S. Truman, poet Carl Sandburg, business leader Neal McElroy, author Agnes Meyer, educator Harold Taylor and others.

The mobilization of a contemporary cohort of leading citizens of comparable stature could only rebound to the benefit of the schools. The demographic and other changes alluded to earlier in this paper project rather starkly the collective stake the entire society has in the quality of its schools and the potential danger that they could become dumping grounds for the growing numbers of minority youngsters in attendance. Efforts to institutionalize the recent involvement of business and civic elites in school issues could not only mitigate the perils of racial, economic, and educational polarization, but also provide a crucial base of support for education in the challenging days ahead.

Another issue requiring the attention of educational leaders is the need to more closely coordinate elementary-secondary and higher education. The twelfth grade, of course, is the magical and mystical dividing line between the two and efforts must be expanded to more effectively bridge the levels in areas where they overlap. We can no longer afford duplicative programs where they may exist. For example, many community colleges offer remedial and vocational programs that are quite similar to the

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offerings of school systems under the aegis of adult basic education. Mechanisms should be created at the local or regional level that will coordinate programs more effectively. Also, we ought to move away from categorical set-asides and blatant political trade-offs that temporarily "buy" peace between the levels. If educators do not take the initiative in rationalizing their systems, politicians certainly will at a time of declining resources. Activities to bridge the levels such as the College Board's Project Equality should be encouraged and expanded.

There are major pragmatic reasons for increased communication between higher and elementary-secondary education. As the competition for dollars becomes keener, there is a real danger of dysfunctional interlevel conflict both for governmental and private funds. In California, for example, the recent comprehensive reform legislation included an $800 million tax increase to be used for the schools; higher education and other services were cut. Even in the area of private giving where higher education has had the terrain to itself, there have been developments that could generate negative competition between the levels. The public schools have just recently turned to the private sector for support and local and regional foundations are being created throughout the country to serve as the conduits for contributions. A new Public Education Fund has been created with the assistance of the Ford Foundation. The Fund has the explicit purpose of serving as a catalyst in the development of local and regional foundations which will serve as mechanisms to funnel private resources in to the schools.

Although there has been little or no overt interlevel conflict thus far, the dangers of this occurring are all too real. Politicians are the first to say that internecine conduct within a policy realm like education could hurt everyone, particularly at a time when resources will be harder to find and competition is keener. Educational leaders from all segments of the enterprise have a responsibility to try to ensure that such interlevel conflict does not transpire.

Two other issues warrant at least brief mention before I conclude. There is growing concern for quality in every facet of American life from cars to schools. The recent reports on education have decried, for example, "the rising tide of mediocrity" or the "lack of standards" in our schools. While acknowledging the undeniable need to bolster the academic quality of many of our programs, we cannot afford to retreat from our national concern with the issue of equity or access which has received such emphasis in the past few decades. Quality does not preclude equity or vice versa. These two transcendent goals are complementary and support each other. The consequences to our society of emphasizing one at the expense of the other are grave because of the economic and demographic imperatives discussed earlier which highlight the dramatic increases in young minority

group members and the continuing commitment of equalizing educational opportunity which must be at the core of our democratic system. At the same time, however, the quality of many of our institutions has become shoddy and a parallel commitment to quality is essential if we are to compete economically and educationally.

The appropriate role of the federal government in the shaping of educational policy remains a persistent and controversial issue. International political and economic issues and concerns would appear to require national responses if not huge federal programs. It seems unlikely that 50 state school systems, some 16,000 local school systems, and more than 3,200 post secondary educational institutions have either the human or economic resources for the expensive research and development investments that have to be made in the new technologies, science, math, foreign language, and computer education. The necessary technological crash programs and heavy up-front investments necessary in new areas like computer education must be promulgated at the federal level as we compete in an international economy against countries like Japan and West Germany which have national planning.

Although there were without doubt excesses in some of the educational initiatives undertaken by the federal government in recent years, we cannot afford to throw the baby out with the bathwater. In other words, we need to find some middle ground between federal domination and a programmatic void in technical areas which the country cannot afford. Indeed, our concerns with areas like math, science, and technology ought to serve as lightning rods as all segments of the society acknowledge a common stake in national priority setting and a more balanced federalism.

The major issue, in essence, is how we reconfigure a fragmented and uncoordinated educational system to meet emerging economic and workforce needs without stifling the strength of its diversity. A key component in this reconfiguration, as I have stressed, is the acceptance of a more generic and broader definition of education as representing more than just schools. Educational leaders should be in the forefront of these efforts to redefine the enterprise. If they do not engage themselves in such self-appraisals, the inevitable changes will occur without their involvement or leadership.

The Club of Rome, a prestigious international group which has the temerity to predict the future, describes three categories of people in regard to their potential influence on the future: (1) those who make it happen; (2) those who let it happen; and (3) those who wonder what happened. I trust that educational leaders will not find themselves in the third category.

Linkages Between Secondary/Postsecondary Vocational Programs and Other Community Agencies

by Leon L. Copeland, Clarence Johnson, and Willard Mumford

This presentation describes three exemplary programs that are attempting to provide linkages between Occupational Education Programs and community agencies at the secondary and postsecondary school level.

Our first presenter is Mr. Clarence Johnson, who is the LEA Director for Somerset County. He will describe a unique Cooperative Occupational Education program operating within the Health Occupations Program at J. Millard Tawes Vocational Center and the McCready Hospital Nursing Home in Crisfield Maryland.

Our second presenter is Mr. Willard Mumford, Division Chairman of Engineering and Technology at Anne Arundel Community College. Mr. Mumford will describe a new Articulation and Awareness Program being implemented in Anne Arundel County to inform and encourage high school students to continue their studies at the postsecondary level.

Leon Copeland will describe a Student Recruitment Marketing Plan that was implemented in the Department of Industrial Education and Technology at University of Maryland Eastern Shore last year.

Each presenter will focus on the underlying philosophy or goal of the program, how the program was organized and implemented, and the degree of success the program has enjoyed.

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Cooperative Efforts in Somerset County

Somerset County does not enjoy a true linkage between their secondary programs and a postsecondary programs. However, the Health Occupations Course at our Vocational Center has established a very beneficial relationship with the McCready Hospital.

It is with great pride that I am able to tell you about this program.

Since the Tawes Vocational School in Somerset County opened in the fall of 1976, the Health Occupation Program at that school has enjoyed an excellent working/learning arrangement with both the McCready Hospital and the Alice Byrd Tawes Nursing Home. These facilities are located in Crisfield. In fact, McCready may be the only hospital that is served by land, sea, and air.

McCready Hospital and the Tawes Nursing Home are located on the same site and are essentially operated by the same administration. McCready is a small community hospital that enjoys a very good reputation for providing good health care; however, the hospital does not serve trauma cases. The Tawes Nursing Home is a highly effective agency which also enjoys a good reputation in the health care field.

Students from the Health Occupation Course under the leadership of their instructor, Mrs. Gertrude Bozman, and a part-time assistant have been warmly accepted by the staffs of both the McCready Hospital and the Tawes Nursing Home, because students are able to provide a necessary service when needed and many times the staff at both facilities is short-handed.

In our Health Occupation Program students in the first year of the program receive classroom instruction until March. Classroom instruction includes studies in anatomy, physiology, and nursing arts.

In March, students go to the hospital for three afternoons a week (Tuesday, Wednesday, and Thursday). On Monday and Friday, they remain at Tawes for classroom instruction to reinforce skills needed for the hospital or nursing home.

During their second year in the program, students remain at the Vocational Technical Center until November. Advance nursing arts and instruction in special areas such as obstetrics is emphasized there.

In November, students then spend three mornings a week at McCready and the nursing home.

While studying at McCready, students are rotated through all areas of the hosptial. Students are assigned to the following areas: Patient Care Areas; X-Ray; Emergency Room; Central

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Supply; 2nd year students are also assigned to obstetrics. All students also spent an equal amount of time in the nursing home.

While covering the Patient Care areas, students are given the responsibilities for providing complete bed bath, grooming patients, and taking vital signs, (such as blood pressure, pulse, temperature and respiration). Students also walk patients and transport patients, to other areas of the hospital, such as the X-Ray room.

Students working in X-Ray help in the development of films, transport patients, and assist patients and staff personnel with various procedures.

In the Emergency Room, students help with routine procedures, assist staff members with admissions information and take vital signs.

Students working in admissions and discharge help patients to complete routine forms, assist in transporting patients, and help patients in the check-in and check-out processes.

In Central Supply, students assist in the sterilization of all materials that are used throughout the hospital. Students also assist in the transportation of supplies and materials to various areas of the hospital.

Although it is not standard procedure, students with great potential have been permitted to work in the operating room.

Second-year students are permitted in obstetrics, working in the nursery, and caring for the new-born infant. Also on occasion, if the patient agrees, students are allowed to watch deliveries of babies.

In the nursing home, students perform many of the same type of tasks, such as walking patients, giving full bed baths, making beds, and grooming patients. Students also transport patients to various areas of the nursing home and the hospital.

In the nursing home there is an arts and crafts station that patients really enjoy. Students help patients with their projects and play games (such as bingo and checkers) with the patients.

The Health Occupation Program is able to fulfill the requirement for nursing assistants, which enables them to apply for work in Nursing Homes with 140 hours in Geriatrics Aide Training. The Tawes Vocational Center is one of a few high school vocational centers that is able to satisfy this requirement.

Mrs. Bozman, our instructor, has generally observed that patients look forward to having the students around because the students do extra little things for the patients.

She also observes that since McCready is a small hospital, students are more generally accepted than in a large hospital. Students get to know personnel and the hospital personnel look upon the students as part of the team or as a colleague.

If there is an opening at the hospital or the nursing home, the students upon graduation usually receive first consideration.

Many students are presently employed in local hospitals and nursing homes. Several have left the Health field for other jobs.

The latest follow-up study indicated that 69 percent of the students who completed two years in the Health Occupation Course at Tawes are currently involved in some aspect in a health related field.

Presently at McCready, there is an RN and nursing assistant who are former students at Tawes, and there are currently five former students who are working as nursing assistants in the Tawes Nursing Home.

When one considers the total secondary enrollment, it is noted that very few young ladies from Somerset County have entered the nursing field in recent years, which only serves to emphasize even more the instrumental role that the Health Occupation Program has played in influencing the lives of the young ladies who entered that program.

It certainly is one of the many success stories of which the Somerset County Educational System can be proud.

Making Articulation Work

In the May issue of The Community and Junior College Journal, Dale Parnell, the President of the American Association of Community and Junior Colleges, outlines what he defines as five critical issues facing the community colleges of today.

The five issues he addreses are: Continuity in Learning; High School/Articulation; Transfer of Credits; Lifespan Learning; and Human Resources Development. All five of these issues relate directly with the theme of this conference.

Mr. Parnell points out that, for many students, the distance between high school and college is like climbing Mt. Everest, when it should be like walking a gentle grade crossing. He stresses throughout his article that much work must be done to encourage closer cooperation between high schools and colleges.

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High schools today are encountering many problems. One of their greatest problems is absenteeism. In a large city high school, 30 to 40 percent of the students are absent on any given day! It is obvious that many students are not learning that self-discipline is an important ingredient not only in their education but in the real world of employment. It is a matter of work ethics.

Community colleges have enjoyed enrollment increases of over 70 percent during the past ten years. But this trend is now reversing - declining enrollments may become a way of life which could mean disaster as long as funding is based on enrollments. Community colleges need to look for new, innovative ways to encourage more high school students to cross those gentle slopes into college. But first we must convince high school students that their Mt. Everest is a mirage, and the trek from high school to college may, indeed, be only a gentle slope.

Less than a month ago the academic and occupational deans of all community colleges received a memorandum from Larry Nespoli entitled, "Report on High School-Community College Articulation in Maryland." It is an excellent document that warrants close examination, study, and action.

The memorandum gives the background of articulation and reports on the results of a survey on the extent of articulation in Maryland community colleges. It appears that Maryland has quite a bit of activity in articulation. High school students are taking college courses, students can obtain credit-by-examination, nine colleges grant advanced placement solely on the basis of high school course completions, and seven colleges have some kind of formal articulation agreement negotiated between the college board of trustees and the local board of education.

The memo goes on to explain many of the details of the agreements, with a sample articulation agreement between Washington County Board of Education and Hagerstown Junior College. The Maryland State Board for Community Colleges encourages further development of high school-community college articulation and the memo can be used as a model.

But since when are articulation agreements new, innovative methods to encourage high schol students to continue their education? It is true that they are not new--nor are they necessarily today considered innovative--but I contend that an articulation agreement that is really working is new and innovative (and the key word is working), for I seriously doubt the effectiveness of most high school-college articulation agreements. And we have only ourselves to blame.

When I started thinking "articulation" in our programs in Anne Arundel County, I first searched the files I had inherited as division chair. No folders were labeled "articulation" but to my surprise, tucked away in a folder labeled "academic history"

I found an eight-page document entitled, "Articulation of Occupational Programs in Electricity and Electronics at Anne Arundel Community College and Anne Arundel Vocational Centers." It was dated 1978 and signed by one of our EET faculty members and a teacher at South River Vocational Center. It was a study on articulation with specific recommendations--recommendations which died in a file entitled "Academic History." After reading it, I could see why it died. The agreement made recommendations for continued studies with no one available, or identified, to do the work; it was not negotiated at an administrative level; and there was no apparent administrative blessing to back the agreement. There was no plan for implementation or evaluation. It did not even die a slow death as none of my faculty, the public schools, nor my Dean were aware of its existence--obvious instant death! Most such agreements are at least granted the honor of a slow death and at least fill a square on a state survey or constitute a gold star on an administrative chart. But:

- Student movements from high school to college were not facilitated.
- Duplication of course materials and instruction continue.
- Utilization of equipment, facilities, and faculty are not maximized.
- High school students are not motivated to enter college programs especially when they are often required to take courses which are almost identical and are sometimes even taught by the same instructor!
- Colleges lose potential students (something we can ill afford to do these days).
- Even worse, students enter the job market ill prepared and unable to develop their full potential--unfair to both employer and employee.

What then must we do? It is time for a new commitment, and it appears some community colleges have made this commitment -

A commitment due to our students

A commitment due to industry

A commitment for better education

A commitment out of necessity.

Articulation is more than just a process. It is an attitude, it is YOUR attitude and your faculty's attitude. How, then, do we approach articulation?

Open minds. We must first keep an open mind--convince ourselves and our faculty that our courses are not always sacred, that high school courses can sometimes cover the same ground that college courses do. We must maintain some flexibility and be willing to make some concessions in course material. In career programs I believe this is possible without making compromise in our standards. But we must approach articulation with our minds open.

Four phases of articulation. Next, we must follow the four phases of the Articulation Cycle, Planning, Development, Implementation, and Evaluation - and must realize that this is a cycle that is continuous. A document by itself is no good if it is not implemented, and it may not accomplish its purpose if it is not constantly evaluated. How many students are using your articulation; and if they aren't, what are the problems and what can you do to make the agreement workable? Many agreements exist, but how effective are they?

Commitment in Time. You must then make a commitment in time not only your time but the time of your division and department chairs. Without this commitment you will not be successful in negotiating a meaningful working agreement. I consider this commitment of time as the primary consideration for successful articulation. When I say TIME, I don't mean just telling your division and department chair to get the job done. You must take positive actions even if it means release time (God forbid) to make time available to keep the articulation cycle dynamic.

It takes many meetings, lots of study, visits to various schools, meeting faculty, talking to students, developing procedures, changing courses and curriculums, program administration, and lots of program evaluation. Sounds like a full-time job--perhaps it is! Maybe what we need is a full-time job perhaps it is! Maybe what we need is a full-time articulation administrator--isn't that what the universities have? Perhaps the community colleges and the public schools have arrived at the same junction--and I'm glad to see OVTE funds getting involved in articulation.

Open Doors. We need also to open doors. Public schools and community need to establish mechanisms which encourage closer cooperation. We need to open our doors and keep them open.

Community college faculty must be seen in the public schools. Students are more responsive to special programs if they come from an outside source. Contacts should be regular and on a planned basis. Advising should be meaningful to the students in terms of their future, and I mean dollars and cents.

We need to get to the right audience. Working together, the public schools can help direct the community college faculty to the right students (one of my frustrations!). Target the 46 percent of high school students that are enrolled in vocational programs,

and talk to them early enough to outline viable options for their future and not programs they've already missed.

When you visit schools, get your act together before you get on the stage. Give students the complete package. Know what programs are available at other colleges and tell them how they can continue their education if they so desire, one step at a time - as far as they want and are able to go. Know the success stories of your students. We have two who obtained their associate degrees in electrical engineering technology. They transferred to Capitol Tech, obtained their Bachelor of Science degrees in electrical technology, and are now doing graduate work at Johns Hopkins University--one in Electrical Engineering and the other Computer Science. Let the students know of such success stories.

Summary. Articulation agreements are not easy. They are not sheets of paper to be filed away and forgotten. Properly handled they can be valuable assets in the educational cycle. We need to keep our minds open and follow the procedures, which are fairly well formulated.

It is important to execute the planning, the developmental, the implementation and the evaluation phases, and realize that this is a continuous cycle of events. The agreements itself is not the end, but the beginning of the process!

To work at all, both the college and the public schools must make a firm commitment in time--not just time squeezed into a busy day, but time alloted for a program. Not just time to negotiate an agreement but time to make the agreement WORK.

We must open our doors to each other; these programs will not run by themselves. They require lots of VISIBILITY--the right students have to be reached with the right material. All too often articulation agreements are signed, sealed, delivered, filed, and forgotten. It is little wonder they don't work.

Dale Parnell in his article points out that high school-college articulation gives high school students the "why" of their learning. The college gains more students and better prepared high school graduates. The employer gains better employees, and the morale of high school students might improve if students were engaged in goal-oriented and more rigorous study during their junior and senior years.

Articulation will work if we decide to give it the priority to make it work.

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STUDENT RECRUITMENT MARKETING PLAN

During the past five years the Department of Industrial Education and Technology at UMES has been actively developing and promoting three new technology education programs and the new technology building that was recently completed to support instruction and research for the programs. All three programs are four-year and lead to Baccalaureate degrees in Construction Management/Technology, Engineering Technology and Industrial Arts Education.

In order to guide program and facility development during this period, the department has utilized a modified management by objectives approach (MBO). The basic philosophical idea underlying the MBO method is to improve the management of a complex organization through the use of agreed upon measurable goals and objectives that are achievable and that are assessed on a regular basis.

Our department's MBO organization involved developing a document which includes broad goal statements to guide the direction of the department for the academic year, a listing of related measurable and observable objectives and supporting activities to assist in achieving the objectives (see attached recruitment marketing plan).

The student recruitment marketing plan was developed two years ago based on our need to increase the number of department majors and to inform potential students about our programs, new building, and related career opportunities.

Marketing involves utilizing research information and a planned sequence of activities to sell a product. In developing our marketing plan we identified four major components which include:

I. Goals of the plan

II. The product we are promoting

III. The target populations

IV. Activities/strategies

School and Industrial Visits. A major activity as outlined in the marketing plan involves school and industrial visits by department faculty to talk with counselors, teachers and potential students about our programs. This activity generated

the need to develop promotional material in the form of informational literature and audio-visual programs. Some examples of these materials include:

"Technology education update"

"Transfer programs" flyer

"UMES fact sheet"

"Slide tape program"

"Contact/followup" mailing program

We are currently updating our slide/tape program and planning to develop a promotional video tape program.

Conclusions. As a result of our experience in utilizing the marketing approach we have concluded the following:

1. A large proportion of students, teachers, counselors, and industry personnel in the state are not aware of new developments in technology education at UMES.

2. Students, teachers, counselors, and industry personnel are interested in learning about educational opportunities in their region and welcome the opportunity for personal visitations to their school/business to discuss the opportunities.

3. Students, teachers, counselors, and industry personnel make judgements during faculty visitations to their school/business about the quality of the educational programs being promoted based on the following factors:

   A. Quality of promotional materials utilized.

   B. Interest and enthusiasm of faculty about the programs he/she is promoting.

   C. Personal interest taken when talking with individual students.

   D. Type of facilities available at the college and quality of the teaching faculty.

   E. Overall reputation of the academic program in producing a quality final product based on feedback from students attending the program or from those who are knowledgeable about the program.

Personal visitations by our faculty seem to be the most successful strategy for promoting programs and providing related career information to potential students. Even though we have

found it extremely difficult to arrange school/industry visitations because of teaching schedules and other university responsibilities, our marketing plan appears to be successful in attracting new students. Efforts to refine the program are being continued and it will be more extensively utilized this academic year.

Student Recruitment Marketing Plan

Marketing involves utilizing a planned sequence of activities to sell a product. The department of industrial education and technology believes that student recruitment can be effectively enhanced through the utilization of a marketing plan. To implement the marketing plan departmental faculty will contact the appropriate student populations, instructional and guidance personnel as outlined below.

Marketing Plan Components

I. Goal

- A. Increase total number of departmental students
- B. Increase departmental visibility

II. Product

- A. Professional programs in technology.
  - 1. Industrial education
  - 2. Construction management/technology
  - 3. Engineering technology

III. Target Population

- A. High school students
- B. Inservice teachers
- C. Community college students
- D. Industrial employees
- E. Undecided majors
- F. Other majors
- G. Transfer students
- H. Non-traditional students
- I. Present students

IV. Activities/Strategies

- A. School and industrial visits by faculty - talk about programs
- B. Departmental newsletter - tech update
- C. Departmental program brochures - mail or handout
- D. Media publicity - newspaper, TV, radio
- E. Open house - technology fair
- F. Admission follow-up letters from department
- G. Encourage graduates to publicize programs

Evaluation: Fall 1984 Conference

The evaluation instrument and results are displayed in Table 9. Generally, the two-day event was rated in the "good" category. Significant discrepancies in rating the items was found in only six of the 99 cases, indicating a uniformity of rating by the members of the these groups.

Table 9

EVALUATION

MARYLAND VOCATIONAL ADMINISTRATORS' CONFERENCE, FALL 1984

Directions: For each activity, please record your evaluation of the following aspects by circling the appropriate number.

Code: 5-Excellent; 4-Good; 3-Average; 2-Fair; 1-Poor

OVERALL CONFERENCE EVALUATION	$\bar{X}$	t-tests 1-2	1-3	2-3
1. Clarity of objectives	4.00			
2. Achievement of objectives	3.82			
3. Quality of the content	3.91			
4. Effectiveness of major presenter(s)	3.96			
5. Quality of the materials	3.85			
6. Appropriateness of facility	3.73			
7. Appropriateness of group participation	3.91			
8. Suitability of format	4.05			
9. Effective use of time	3.95			
10. Relevance to your work	4.00			
11. Effectiveness of activity overall	4.00			2*
KEYNOTE PRESENTATION EVALUATION				
12. Clarity of objectives	3.87			
13. Achievement of objectives	3.77			
14. Quality of the content	4.09			
15. Effectiveness of presenter	4.00	1*		
16. Relevance to your work	3.78	1*	1*	

NOTES:

1 = LEA Administrators
2 = 2-year College Administrators
3 = Agency Administrators

*significant at .05 or quarter

Table 9 (continued)

MARYLAND VOCATIONAL ADMINISTRATORS' CONFERENCE, FALL 1984

SMALL GROUP DISCUSSIONS EVALUATION	$\bar{X}$	t-tests 1-2	1-3	2-3
17. Clarity of objectives	4.05		1*	1*
18. Achievement of objectives	4.05			
19. Quality of the content	4.05			
20. Effectiveness of resource persons	4.33			
21. Appropriateness of group participation	4.05			
22. Effective use of time	4.14			
23. Relevance to your work	3.81			

DINNER SPEAKER EVALUATION	
24. Clarity of objectives	.55
25. Achievement of objectives	3.55
26. Quality of the content	3.74
27. Effectiveness of major presenter	3.70
28. Relevance to your work	3.39

LINKAGES BETWEEN SECONDARY/POSTSECONDARY VOCATIONAL EDUCATION AND COMMUNITY AGENCIES EVALUATION	
29. Clarity of objectives	3.95
30. Achievement of objectives	3.76
31. Quality of the content	3.95
32. Effectiveness of major presenter(s)	3.81
33. Relevance to your work	3.75

- Productivity -

"A Password for Excellence in Vocational Education"

Addison S. Hobbs

I suppose that operating within the role of reactor it may be expected that one will take certain latitudes with regard to the presentations of record.

It is sometimes considered controversial or phlegmatic to differ with speakers who do not extol that which we consider virtuous and erudite.

I confess that I am one of many who grasp every opportunity to expand upon my philosophy in every formal and informal forum.

Productivity may be defined as a commitment to excellence within a context of economic recession and international competition. It requires learning how to do a better job more efficiently and with less.

It means forming new alliances and broaching new markets; it requires learning how to compete, that is, how to market and how to sell. It means assessing our management, administrative, and instructional skills and practices; and it requires refining them to create harmony with the findings of research and the contemporary social, economic, and technological milieu.

Diligent attention must be paid to changing technology and its implications for vocational education. That attention must then be translated into mechanisms to develop, modify, or if necessary, abolish programs at the secondary and postsecondary level of program operation.

Further, it is important for vocational education leaders to understand and respond intelligently to the productivity debate. Does the nation and State of Maryland need, and will continue to need, thousand of new workers with new technical skills, or will we need more workers with perhaps different skills (less sophisticated)? Regardless, the programs and skilled workers that result will be tested in the marketplace of competition. That marketplace is both national and international, and the competition is fierce.

NEEDED CURRICULAR CHANGES IN VOCATIONAL EDUCATION

Albert J. Pautler, Jr.

With contemporary advances in technology and rapidly changing conditions in society, some positive changes in vocational education curriculum seem needed. Few real changes in the delivery of vocational education have occurred within the last twenty years. Some new programs have been designed and implemented and have become well established in any number of vocational education schools. Many former program offerings have been eliminated from the curriculum of vocational schools.

The traditional delivery system, as used in vocational education since the Smith-Hughes Act of 1917, is still with us. We have new programs. We have new facilities. We have come a long way since our start in school basements, converted plants, and converted warehouses. We have well prepared teachers. We have a National Advisory Council for Vocational Education (NACVE). We have State Advisory Councils for Vocational Education (SACVE). We have local advisory councils for vocational education. We have federal, state, and local support for vocational education. We have become the selective form of education in the United States. Students, both youth and adults, who cannot enter a vocational education program, must take other forms of education--general or academic. We are truly the gate keepers of a unique system of education. We have a history. We have generally agreed upon principles that guide the direction of our educational efforts.

However, when one considers the amount of research effort, including human input and financial resources, what real curricular changes have occurred? We have had many national, state, and local curriculum development efforts, but what real changes have these efforts had upon the delivery of vocational education services? Many of us give a great deal of lip service to the following concepts:

- computer assisted/managed instruction
- modular programs and schedules
- performance or competency based instruction
- clusters and cluster programs
- open entrance and open exit programs
- instructional management
- flexible scheduling
- open access to programs

But, the fact remains, when you observe the contemporary delivery method of vocational education, you see a traditional approach. Some will say that the system is well established and appropriate to contemporary needs of students and society. We disagree and firmly believe that some curricular changes are needed to meet changing needs of students and contemporary society. We believe that a large scale effort is needed to make the vocational education curriculum more responsive to the educational needs of youth and adults.

The present delivery method of vocational education still remains as follows: The traditional vocational education system will have "x" number of shops/laboratories; "x" number of teachers; and "x" number of programs. To be more specific, a school that offers 20 programs (automotive mechanics; electronics; data processing) will have 20 teachers and 20 shops/laboratories. (Larger schools may have two or more similar shops/laboratories and an equal number of teachers.)

Our proposal and challenge to the profession is as follows: Within the next several years, could we take the 20 shop/laboratory schools with 20 specialized teachers and offer to the students 50 or more programs. We do not merely mean related programs or clusters, but, a total variety of programs. The implications are many and the benefits to our clients and our profession positive.

To further elaborate on the concept or curriculum plan that we have in mind, please consider the following: Your local vocational school program consists of 20 specialized occupational offerings. It is from this listing of courses that students are given the opportunity to select what may very well be their life career. Twenty choices, big deal, out of some 20,000 different occupational titles in the Dictionary of Occupational Titles (DOT). This same vocational school would have 20 teachers and probably 20 shops or laboratories. The student selects an occupational offering and spends one or two years with a specialized teacher in a very specialized shop/laboratory setting.

Given the same resources of 20 teachers and 20 shops or laboratories, we feel that it is reasonable to suggest that perhaps with some additional curriculum planning that the list of course offerings available to students might be extended to fifty or more. You might logically ask, "how might this occur?"

We believe that with a modular, curriculum, flexible schedule, and perhaps a computer assisted and managed system, what we propose is possible.

A Modular Curriculum for Vocational Education

The proposed modular curriculum for vocational education would have to be based upon a well-designed and operational curriculum that is structured in units or modules. That is, each course would have to be subdivided into a number of sub-parts. From this point on, we will refer to these sub-parts as modules. A typical module would consist of the following components:

1. Title
2. Introduction
3. Objectives or Goals
4. Instructional Content
5. Instructional Methodology
6. Instructional Aids and References
7. Competency-Based Evaluation

Others may prefer to refer to these as units of instruction, which is completely proper.

Each of the courses within the vocational school would have to be designed based upon modules of instructional content.

MIX AND MATCH THE MODULES

The most difficult part of arriving at such an operational program is to find the proper mix of existing units that when put together would create a new program offering. With the assistance of advisory committee members and planning on the part of vocational staffs, the task is not impossible.

What we see is a computer managed instructional system that would keep track of the progress of each student in the school. The instruction would have to be individualized and the teachers all willing to operate within such a system. The day of one teacher working with and instructing 25 students for the entire term would be gone. Students might be with teacher A for two units of instruction, then move on to teacher C for five units, and then move again to teacher H for five more units.

AN OPERATIONAL MIX AND MATCH PROGRAM

Several years ago the Wallace D. Ormsby Occupational Center in East Aurora, New York put into operation a new plastics technology program. This was designed as a two-year secondary level program designed to meet the local needs of the plastics industry. Fisher-Price Toy Company and its plastics division is located within the general area.

For some reason the first graduates of this new program were not doing too well finding employment after graduation. As a result the administration and staff of the Center gave consideration to some major modifications of the existing program. Industrial input was also asked for and received.

As a result, what we are calling a mix and match curriculum was established. It was decided that for the two years the students were to be at the Center they should not just spend their time in the plastics area but should also divide their time in machine shop and drafting. As a result, students are rotated within these three areas during a two-year program. Each student receives instruction in drafting, machine shop practice and mold making, and plastics technology. Since that time the program has received a great deal of national and local attention. Most importantly, 100% placement of the graduates has been achieved.

That success has prompted us to consider many other areas of similar need within the traditional vocational program. We are sure many other such mix and match programs could be established within any vocational program.

ANOTHER EXAMPLE - ADULT AND CONTINUING EDUCATION

Many vocational administrators will react by saying that the idea of mixing and matching the curriculum will not work for this or that reason. Some will say that state laws or regulations will not allow such a program. Well, change the regs and laws if need be.

But most adult and continuing education programs are self-supporting to a large part. Here you have an excellent opportunity to experiment with mixing and matching the curriculum with a group of adult learners. Your adult program can and might serve as an excellent barometer for day school needs.

Using the adult vocational education program as a barometer for the day school program gives educators the ideal opportunity to experiment with new ideas and curriculum without long-term obligations. Using the concept of mix and match, vocational program operators can attempt to combine a number of existing programs into new combinations leading to certificates of completion in a variety of new areas.

In most states greater flexibility of course offerings and financial control exist. It is one way that public vocational education may learn to be able to respond more quickly to new and emerging areas of study.

SUMMARY

Doing with less financial support in many areas of the country and a declining school age population, some attempt must be made to allow fewer dollars to serve more students. Using some of the concepts of mix and match within the vocational education programs may help.

We have many excellent vocational facilities in this country and perhaps they could be used more efficiently with more creative curriculum planning and operation. If every existing vocational facility could offer one, two, or three new course offerings with existing staff, equipment, and supplies, just think of the expanded opportunity that would exist for the students in the area, as well as the savings to the taxpayers in the area. It just might work in your area, why not give it a try?

PRODUCTIVITY AND EQUITY IN VOCATIONAL EDUCATION: AN AGENDA FOR ACTION

Thomas C. Tuttle

"Our nation is at risk. Our once unchallenged preeminence in commerce industry, science and technological innovation is being overtaken by competition throughout the world." (National Commission on Excellence in Education, 1983, p. 5)

These words highlight the urgency of the U.S. economic plight felt by the distinguished panel of experts established by Secretary Terrell Bell as the National Commission on Excellence in Education (NCEE). This group identified the decline of educational quality as a principal cause of our economic decline.

"If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war. As it stands, we have allowed this to happen to ourselves." (NCEE, 1983, p. 5)

This report is significant in that it does not indict the educators for our predicament as much as it indicts the society which accepts less than excellence from its educational system. There is the implicit recognition that, ultimately, it is the society which must make the choices and the commitments necessary to improve the system. It is the same society which pays the price of educational mediocrity.

"That we have compromised this commitment (to high quality schools and colleges) is, upon reflection, hardly surprising, given the multitude of often conflicting demands we have placed on our nations' schools and colleges. They are routinely called on to provide solutions to personal, social and political problems that the home and other institutions either will not or cannot resolve. We must understand that these demands on our schools and colleges often exact an educational cost as well as a financial one." (NCEE, 1983, p. 6)

Importance of Productivity

The national debate regarding economic competitiveness has focused increased attention not only on education but also on declining U.S. productivity. Productivity, defined by the Bureau of Labor Statistics as the gross domestic product per paid employee hour, grew during the 1960s at about 3.0 percent per year. This growth rate fell during the early to mid-seventies to about 1.5 percent per year. By the end of the last decade, productivity was not growing at all in the United States. When productivity falls while labor and other costs increase, prices must rise in order for firms to make a profit. Soon, in a global economy, American producers begin to price themselves out of the market. This has happened in a growing number of industries, consumer electronics, steel, shoes, motorcycles, cameras, machine tools, and automobiles. While this analysis is over simplified and

ignores factors such as product quality and exchange rates, it serves to illustrate the critical role played by productivity in assuring that U.S. products are competitive, and that the U.S. standard of living is maintained.

White House Conference on Productivity Focuses on Human Resources

Productivity growth in a nation depends on several factors: capital, technology, and human resources. In his welcoming statement to the White House Conference on Productivity's Preparatory Conference on Human Resources, President Reagan said:

"Improving productivity in this country lies at the heart of building and sustaining our economic recovery. It has been of major concern to me since the beginning of my Presidency because greater productivity growth is necessary for us to achieve full employment, price stability, and sustained economic growth. It is a vital part of our efforts to impove our competitive position in world markets and create more job opportunities for an expanding American labor force, and it is essential if we are to raise incomes and maintain stable prices. Productivity growth is also tied to real economic growth and to improving standards of living.

The role of human resources development in making the United States more productive cannot be over estimated. Without a properly trained and motivated workforce, the private sector cannot meet the competitive demands of high technology industries." (Ronald Reagan, June 10, 1983)

This Preparatory Conference on Human Resources underlined the role of education in meeting our nations' employment skill needs as an important part of the productivity equation. The report defined education as "... the process of acquiring basic skills and knowledge and the tools for learning." In assessing the current state of affairs, the following points were stressed:

- by some estimates there are 23 million adult illiterates in the United States.;
- basic skills and competencies in science and math are lacking in many new labor force entrants while they are rising in our major world competitors;
- curricula have been softened, academic requirements reduced, and vocational programs have slighted basic skills;
- teachers have experienced declining real compensation, parental support and a deteriorating working environment;
- most businesses have shunned support of public education and have relied on other organizations to guide education;

- business has complained about the declining quality of new employees, but has not communicated employment skill needs nor become involved in curriculum development.

With respect to training and retraining problems, the Committee notes that programs must be differentiated depending on the audience. Four categories of the labor force need to be addressed:

1) Workers in continuing employment.

2) Displaced workers arising from shutdown of plants and permanent reduction of employment levels in existing firms.

3) New entrants to the labor force or re-entrants after a substantial period of absence.

4) Disadvantaged workers or those with continuing low wages by virtue of handicap, low skills and education, or discrimination.

With respect to training and re-training, the following points were noted:

- special problems are indicated by statistics such as a 25 percent unemployment rate for youth, 36 percent for minorities, and 50 percent for black teenagers.

- there are both public and private responsibilities and opportunities in the training and re-training fields. But there is a strong need for better coordination and integration in these programs.

- training is a lifelong process in view of changing technologies, shifting job opportunities, locations of employment and interests of workers.

- demographic changes producing larger concentrations of people in age ranges of 25-44, and post 55 have strong training implications.

- labor market information on job and available manpower needs should be improved.

Forces and Directions of Change

While experts disagree on the specific direction it will take, all agree that the future will be characterized by rapid change. Educational planners must make resource allocation decisions, curriculum plans, and hiring decisions based on assumptions about this uncertain future. In planning educational efforts to address the problems identified by the NCEE and the White House Conference on Productivity, awareness of the forces of change which are shaping our society are helpful.

Dr. D. Bruce Merrifield is an Assistant Secretary of Commerce for Productivity, Technology and Innovation. While some tend to portray the future negatively, Dr. Merrifield is an optimist. Much of his optimism is based on an assessment of future technology growth and its potential for the United States. We are witnessing a dual economy in the U.S. according to Merrifield (1983, p. 52). One economy, smokestack America, is disappearing. The other, based on new technology, e.g., electronics, communications, engineering plastics, specialty chemicals and biotechnology, is expanding. This new economy will continue to grow, fueled by a continuing knowledge explosion. Ninety percent of everything we know in the sciences has been learned in the past 30 years. This knowledge will double again in the next 10-15 years (Merrifield, 1983). This is a world-wide phenomenon which obseletes the life cycles of products and processes enormously. In electronics, the life cycle is typically 3-5 years. In other technologies 5-10 years is common. This explosion of new technology will change our lives continously. For example, electronic mail will provide access in our living room to the Library of Congress, to most university courses, and continuous news updates. Merrifield predicts that the frontier of education will shift to adult education as populations shifts are coupled with the pace of change which requires continuous learning.

In Megatrends, a national best seller for over a year, John Naisbitt (1982) describes ten new directions that are transforming our lives. Many of these are familiar themes, but this makes them no less profound. Some key points illustrate the scope of Naisbitt's view.

- We are moving from an industrial to an information society. The computer is the principal tool of the information society (e.g. our estimate is that 75 percent of all jobs will involve computers in some way by 1985).
- As we move into an increasingly literacy-intensive society, our schools are giving us an inferior product.
- We are moving from the specialist who is soon obselete to the generalist who can adapt.
- The skills to maintain high technology systems are becoming as important as the creative skills to design the systems.
- The more high-tech around us the more the need for human touch. While technology seems on the verge of liberating us from personal discipline and responsibility, it never does and never will.
- We are moving from a national economy to a world economy. To be successful, we must think globally and be trilingual, English, Spanish, and computer.

- We are moving from an institutional help to a self help society. Disillusioned by institutional failure, people are becoming more self-reliant-taking on more responsibilites e.g., community crime prevention groups, health food, and exercise movements, parental activism in school systems.

- We are moving from hierarchical organizations (bureaucracies) to networks (people talking to each other) as the way to solve problems. Computers have smashed the hierarchical pyramid and enable people to link together in networks.

These are but a few of the insights provided by Nasibitt (1982). Educational implications are profound as one ponders these societal trends. Both Merrifield and Naisbitt see great promise from high technology, however Naisbitt realizes that the potential of technology can only be unlocked by having skilled people and through awareness of the high-tech high-touch relationship.

Productivity and Equity - Compatible or Incompatible?

Although not identified by Naisbitt as a megatrend, it is hard to imagine a set of changes in society more profound than the shifts in male and female roles and expectations. During the past decade, great strides have been made in opening up occupational areas, traditionally reserved for men, to women. Not only have women moved into nontraditional jobs, more women have been promoted into policy and decision-making roles. Men also have benefited occupationally from the growing awareness of the artificiality of sex barriers. Progress has been made, however, statistics such as those indicating that the average working woman earns only 60 cents to each dollar earned by the average working man (U.S. Conference of Mayors, 1984) suggest that bias still exists.

The importance of these social changes to the productivity debate have not gone unnoticed. The White House Conference on Productivity noted that new entrants to the work force (i.e., principally women and minorities) have and will continue to require a considerable investment of training resources. In efforts to explain why the annual rate of productivity gains in the United States declined to a negative rate during the 1970s, economists have pointed to the increased numbers of "inexperienced" workers as a small, but contributing factor.

Productivity analyses of the impact of women moving into non-traditional jobs have focused on traditional productivity statistics. When productivity is measured in terms of Gross Domestic Product (GDP) per paid work hour, an increase in the denominator (i.e., paid work hours) without a corresponding output increase will produce a net productivity decline.

Inexperienced people, in large numbers, will have this effect due to the fact that time and money must be devoted to training. Presumably this time and money could have otherwise gone to producing marketable products or services.

Such analyses seem flawed in two major respects. First, traditional productivity measures do not include outputs produced by "non-paid" employees. Thus, outputs associated with work at home (e.g., child rearing, cleaning, preparing meals) are not incorporated in our output measures. Working women (or men) who perform the dual roles of housekeeper and employee only contribute to productivity statistics through their paid work. Thus, many outputs go unmeasured, understating "true" productivity.

A second, perhaps more significant, consideration is that any productivity declines due to new workforce entrants are likely to be short term. Once the temporary workplace adjustments are made, it seems likely that the positive contribution made by "non-traditional" employees will outweigh the costs. Furthermore, productivity is simply one criterion by which the impact of this social movement is to be judged. While productivity is important, other criteria, e.g., overall quality of life, must also be considered. The relationship between productivity and equity is complex and not totally understood. However, pressures for equity throughout society should and will continue. The underlying goal is the creation of opportunities for all people regardless of sex, race or handicap to make use of their skills and abilities. Certainly, improved utilization of human resources is, over the long run, essential to sustained productivity growth.

Challenge for Vocational Education

This introduction provides a context within which to consider productivity and equity in vocational education. As our society moves toward the 21st century, education will play a central role in shaping the quality of life which that new era will hold for us. Vocational education will greatly affect out ability to exploit the technological possibilities which loom ahead, to enable all citizens to make use of their skills and abilities, and to help our society achieve higher levels of environmental quality, economic well-being and national security.

Productivity - What Does It Mean?

Productivity is a widely used and misused concept. This section will discuss productivity and performance at the organizational level. Organizational productivity is a systems concept and it is one of several systems performance criteria. Before one can meaningfully discuss productivity, it is necessary to define the organizational system under consideration.

Basic System Concepts

A system is a set of interacting components. Systems are of two types: open and closed. An open system exchanges inputs and outputs with its environment. A closed system does not interact with or draw resources from it environment. Outside energies such as wind and weather may play on a closed system, e.g. a school building, but it has no restorative capability. A closed system moves toward a state of increasing disorder (entropy) according to the Second Law of Thermodynamics. Open systems, on the other hand have the capacity to import energy and information from the environment, and to self-correct in order to achieve a "goal." Living things are open systems. Organizations are open systems.

In studying an organization as a system one must identify certain features or attributes of the system. These key attributes are defined below.

Boundary - The system boundary is that which separates the system from its environment. All components within the boundary are within the system, those outside the system are part of the environment. The boundary of a system is analyogous to the walls of a building, although system boundaries usually do not have a physical manifestation.

Demand - Organizational systems exist to satisfy some purpose, to serve certain societal needs or to carry out some mandate. The demand represents the identification of the expectations or requirements that cause the system to exist. Usually there are multiple demands on a system that need to be identified.

Input - The input consists of the resources available to the system. Generally, these can be subsumed under the categories of labor, raw materials, capital, and energy. However, in an educational system students would be a part of the "raw material."

Output - System outputs are the final units of product or service that the system supplies to its environment. While there may be intermediate outputs along the way, the system outputs are the final products or services that are passed on to consumers, customers, or other organizational entities.

Transformation - Transformations represent the internal workings of the system which convert inputs to outputs. In an educational system transformations would include the educational experiences (e.g., classroom training, field experience, etc.) necessary to produce graduates, support activities, inservice training of staff, administrative actions and associated tasks.

Impact - Impact refers to the effects which system outputs have on the environment. In a manufacturing organization, impact might refer to the generation of market share. In a human service organization, cases closed (an output) may or may not lead to recidivism. In service organizations, such as education, tracking the impact of system outputs is one way to judge whether the system is producing the "correct" outputs.

External Interactions - Open systems must carry on interactions with other systems in their environment. These relationships across system boundaries are necessary to insure that resources continue, that coordination occurs, and that outputs are "marketed."

These basic system attributes can be diagrammed as shown in Figure 1.

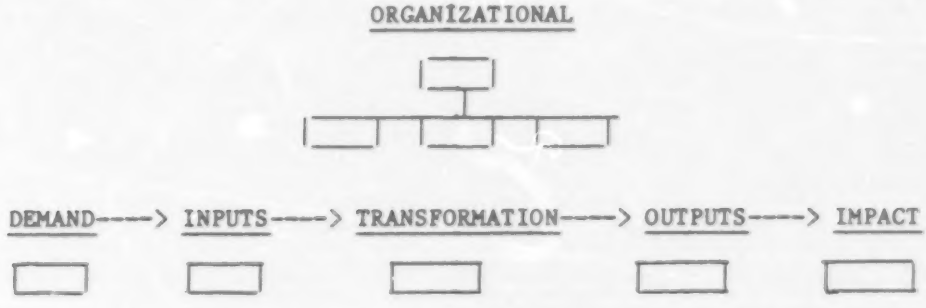

Figure 1. Organizational System Diagram

When conducting an organizational systems analysis, one must be very explicit in identifiying the system boundaries, since organizations can be viewed as hierarchies of systems. For example, an entire city government might be viewed as a system. This city system contains a public safety subsystem, a social service subsystem, a licensing and permits subsystem, a housing subsystem and so on. Further, each subsystem can be broken down into smaller subsystems each with it boundaries, demand, inputs, transformations, outputs and impact. Therefore, it is necessary at the beginning of the analysis to carefully describe the boundaries of the system or subsystem of interest.

System Performance

The performance of an organizational system is a multidimensional construct. Dimensions of organizational performance include efficiency, effectiveness, productivity, quality, utilization, innovation, quality of working life and profitability. Using the concepts in Figure 1, these criteria may be defined as follows:

Efficiency - The relationship between actual and planned resource expenditures during a given time period.

Effectiveness - The relationship between actual impact and expected impact during a specified time period.

Productivity - The relationship between system outputs and inputs during a specified time period.

Quality - The extent to which outputs conform to specified standards.

Utilization - The relationship between inputs used and resources available to be used.

Innovation - The extent to which the system changes to maintain productivity and effectiveness from one time period to the next.

Quality of Working Life - A set of variables relating to the impact of system performance on the members of the organization.

Profitability - The relationship between costs and revenues. This criterion applies to "for-profit" organizations.

Types of Organizational Systems

The relative importance of these eight performance criteria varies as a function of the nature of the organizational system, its environment, and its mission. It is helpful in the present discussion to differentiate two types of organizational systems: Direct impact and indirect impact. A direct impact system may be diagrammed as in Figure 2. In a direct impact system, the output

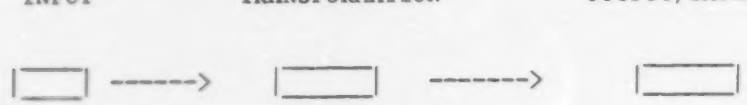

Figure 2 Direct Impact System

and impact are virtually synonomous. A stereo repair shop is an example of a direct results system. Repaired stereo components are the output. Assuming the components are repaired correctly, using quality components at a reasonable price, the repaired component is virtually synonomous with the impact--satisfied customer.

Indirect impact systems require additional assumptions. An indirect impact system is diagrammed in Figure 3. An educational system illustrates an indirect system. The primary output of an educational system is graduates. However, the societal impact

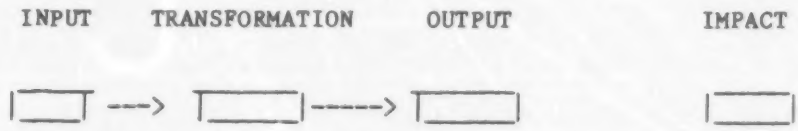

Figure 3 Indirect Impact System

by graduates depends on a logic track that assumes that the knowledge and skills obtained during the educational process are appropriate for the role the graduate will play in society. Whether the impact is measured in terms of placements, earnings increase, job satisfaction or some other measure, the output has an indirect relationship to the impact, and is affected by other intervening variables, state of the economy, career alternatives available to the graduate, position openings, etc.

In a direct impact system, the performance criteria of major importance are efficiency, productivity, and quality. There is little choice among possible outputs; therefore, effectiveness is relatively unimportant. Quality of the output assures effectiveness.

In an indirect impact system, choices are typically made among possible outputs. Managers in the system typically make choices based on assumptions concerning which outputs will have the greatest desired impact (e.g., which courses will be offered this year). In such a system, effectiveness is a major concern since the impact provides a means of validating the logic track which intervenes between outputs and impact. Efficiency and productivity are important to the extent that the system has some control over input and output levels. In public organizations, productivity is important politically, as well as practically, since it relates to the level of output society receives for the dollars expended.

In both types of systems, quality, quality of working life, and utilization are important. In profit making organizations, profitability is of concern. Innovation is of major concern in all systems where competition is keen or where the environment changes rapidly.

Productivity/Performance in Maryland Vocational Education

To this point, the discussion has been abstract and conceptual. This section will address the application of the ideas discussed to vocational education in Maryland. In particular, this section will describe the existing vocational education system in systems terms and will discuss the applicability of each performance criterion to the present system.

What is the Present Vocational Education System?

Boundaries. In Maryland, the Vocational Education System includes those segments of secondary and post-secondary institutions that provide preparatory and supplemental vocational educational programs at the secondary and post-secondary levels. In addition, the system includes state and local administrative structures in place to effectively administer vocational programs.

Demand. Demand for vocational education derives ultimately from the needs of citizens for employment and the needs of the business community for the development of job relevant knowledges and skills. This need is expressed legislatively in both Federal Law (P.L. 94-482) and Maryland State Law (21-201; 21-202).

Input. Inputs to the vocational education system include:

Labor - Administrators, Faculty, Support Staff

Capital - Facilities and Equipment

Materials - Books, teaching supplies, expendables

Students - Youth and adults in "normal" and special population categories e.g., minorities, economically disadvantaged, handicapped, etc.

Energy - Btu's of energy required to operate facilities, equipment, and vehicles

Money - Appropriated dollars from federal and state government

Transformation. Transformations include the teaching process, and special services provided to students, counseling, testing, placement, etc. In addition, transformations include staff development, administration, facilities maintenance, and other auxiliary activities which are critical to support the educational process.

Output. Vocational education system outputs include:

students completing preparatory programs;

students completing supplemental courses;

students dropping out prior to completion of preparatory programs;

students dropping out prior to completion of supplemental courses;

staff competencies improved;

DVTE

Secondary Schools

Community Colleges

Demand	Input	Transformations	Output	Impact
Client Needs	Labor	Secondary	Students Completing Programs	Populations Served
Business Needs	Capital	Post-Secondary		Income Raised
P.L. 94-482	Materials	Supplemental	Students Completing Courses	Individuals Hired In Relevant Jobs
S.L. 21-201	Energy	Counseling		Employer Satisfaction
21-202	Students	Placement	Program Drop-outs	Graduate Satisfaction
		In-Service	Course Drop-outs	Funding Sources Satisfied
		Administration	Staff Competency Increased	Vocational Equity Goals Achieved
			Reports Prepared	
			Presentations Made	

U.S. Dept. of Ed. SAC LAC Business Labor Parents Legislators Local Gov't Officials

External Interaction

Figure 4. Maryland State Vocational Education System

Current Performance Indicators

Public Law 94-482 requires the preparation of an Accountability Report showing the extent to which the state complies with its Annual Plan. In addition, the State Plan for FY 83 required that DVTE assess the quality and effectiveness of vocational services and activities supported and/or provided by DVTE (Goal 4.1. 1c 1983 State Plan). Based on data available in these two documents, it is possible to draw some inferences regarding the extent to which various performance indicators discussed above are applied to DVTE programs. Again, since the data available is from two time periods - Accountability Report FY 82 and the DVTE/MSDE Needs Assessment FY 83 - this discussion is an assessment of the types of data reported, not an attempt to draw conclusions regarding program quality or effectiveness.

Efficiency - The accountability report includes the data needed to calculate efficiency indicators both by funding source and by purpose of the funds. For example, for vocational programs in FY 82, overall efficiency indicators would be:

$$\text{Federal Funds} - \frac{\text{Actual expenditures}}{\text{Planned expenditures}} = \frac{3,011,159}{3,098,975} = .972$$

$$\text{State Funds} - \frac{\text{Actual expenditures}}{\text{Planned expenditures}} = \frac{49,023,544}{55,570,000} = .882$$

This data (DVTE, 1982, p. 84) suggests that "efficiency" was greater with respect to federal funds than with state funds. As an absolute value, these numbers mean very little, however. They are best interpreted relative to a standard which may be based on historical performance or on a target set by administrators.

While the data exists to determine efficiency with respect to funds spent, this data has less meaning to a person managing a program than do other types of efficiency indicators. Indices with more potential as management indicators would be:

$$\frac{\text{actual no. instructor hours in the classroom}}{\text{planned no. instructor hours in the classroom}} \quad \text{or}$$

$$\frac{\text{actual energy expenditures for facilities}}{\text{planned energy expenditures for facilities.}}$$

The accountability report serves the needs of funding agencies. It is not clear that similar data exists which serve the needs of managers and administrators for managing efficiencies. Presumably, such data exists in the management information system.

Effectiveness - In its Needs Assessment (Gilli, 1983) and Accountability Report (DVTE, 1982) DVTE collects and reports a great deal of data regarding effectiveness. If one defines

effectiveness as the extent to which the organization achieves its goals and objectives, then these reports deal with effectiveness. These efforts are extensive. For example, the accountability report summarizes the number of students enrolled in major vocational-technical programs by type of program and category of student. This data permits an assessment of actual completions and planned completions by program. If effectiveness is defined as goal accomplishment, then for health related preparatory occupational programs we can compute an effectiveness indicator as follows:

Secondary Health Program Effectiveness = Number actually completing program FY '82 / Number planned completions FY '82 = 723 / 791 = .974

Post Secondary/Adult Health Program Effectiveness = Number actually completing program FY '82 / Number planned completions FY '82 = 1569 / 1946 = .806

(Source: DVTE, 1982 Table II, pp. 10-11)

Our previous discussion defined effectiveness in somewhat more stringent terms as the actual impact compared to the planned impact. The concept of impact is not widely reflected in the DVTE evaluation data. The evaluation data focuses on an assessment of program activities, enrollments, and completions. This focus is not surprising in view of the goals stated in the Annual Plan. The mission statement in the 1984 plan is as follows:

"Persons of all ages in all Maryland communities will have ready access to high quality vocational-technical education and training programs which are realistic in light of actual or anticipated opportunities for gainful employment and consistent with their needs, interests and activities." (DVTE, 1984 Annual Plan, p.48)

This statement includes some assumptions about impact. For example, how can one determine if programs are "realistic in light of actual or anticipated opportunities for gainful employment" without both labor market information and assessment of placement rates. While this statement fails to mention needs of the the state or local economy, it still has an "impact orientation." None of the four goals derived from this mission, however, explicitly deals with impact. The closest statement in this regard is Goal II:

"Vocational students will receive high quality vocational-technical educational programs which are based on opportunities for gainful employment and consistent with the students needs, interests and abilities." (1984 Annual Plan, p. 48)

This Goal is further described in the rationale as:

"Persons completing a vocational-technical education program should possess the competencies required for success in acquiring and maintaining employment in the field trained, or in a related occupation; or continuing their training in a related program of study." (1984 Annual Plan, p. 48)

How is Goal II to be assessed? The proposed evaluation related to the goal focuses on enrollments. There is no mention of efforts to determine the impact of programs. Impact assessment is not totally ignored in the development of the plan, however, since improvement of the follow-up system is listed as research becomes available.

In the FY 82 Accountability Report, there are some efforts to assess impact. Chief among these is data contained in the Management Information System. Employer surveys provide data regarding the perceived preparation of graduates for employment. In addition, program process evaluation results, while primarily concerned with input and transformation issues, did assess student views about the program.

The primary impact data reported in the Accountability Report is the Secondary and Post Secondary Completer/Leaver Follow-up Report. Using this data as an indicator of effectiveness we find:

Secondary Effectiveness-- $\frac{\text{Total employed in a field related to training}}{\text{Total completions}} = \frac{1460}{29,392} = .049$

Post Secondary-- $\frac{\text{Total employed in a field related to training}}{\text{Total completions}} = \frac{481}{4587} = .105$

Without historical data or comparative data from other states it is difficult to interpret these numbers. However, it seems that the low percentage of completers working in relating fields raises questions about the effectiveness of the process. In particular, if these data are accurate, can we assume that vocational education programs are "based on opportunities for gainful employment?"

Productivity - Productivity was previously defined as the relationship between output and input for a given period of time. The evaluation data presented in the Accountability Report provides no productivity indicators. Using data available from the report, it is impossible to relate inputs to outputs. Program funding levels can be related to enrollments yielding a cost per student served, however such macro analyses, in and of themselves, have little meaning to educational administrators.

A guidance example might be presented to show how a productivity indicator could be developed. For the guidance subsystem, the

major output might be students served (probably a better output indicator could be developed with more knowledge of the area e.g., number students with written career plans, etc.). In FY 83 12,273 students received guidance, counseling and support from 108 counselors. If we assume that all counselors are full time employees and work 35 hours per week for 48 weeks, then there are a total of 181,440 counselor hours worked per year. If we further assume that 80 percent of a counselor's time is actually spent in couseling, then there are (.80 x 181,440) 145,152 counseling hours spent per year. Converting this into a labor productivity ratio we have:

$$\text{Counseling Labor Productivity} = \frac{\text{Output (\# students served)}}{\text{Input (\# counseling hours)}} = \frac{12,273}{145,152} = .08 \text{ students counseled per hour}$$

If we further assume that the average cost of an hour of counseling time is $20 per hour (counselor salary + benefit costs/# paid hours), then we can compute the cost per student served by inverting the productivity ratio:

$$\text{Cost per Student Served} = \frac{\text{Labor cost}}{\text{\# Students served}} = \frac{145,152\ (20)}{12,273} = \$235.54$$

While these assumptions appear reasonable, they are hypothetical. Nevertheless, productivity indicators can be developed for key subsystems of the vocational education program. Such analyses can have major benefits for administrators in evaluating their individual programs.

To carry the guidance example a step further assume that 30 secondary schools conducted similar analyses of their guidance operation and these "productivity" results were plotted as shown in Figure 4. The X-axis classifies schools according to the

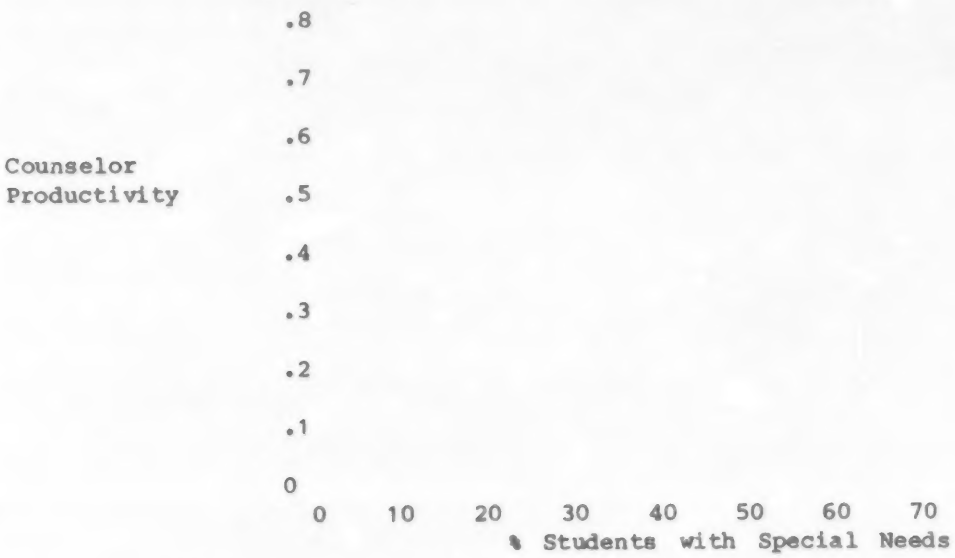

Figure 4. Relationship Between Counselor Productivity & Extent of Counseling Demand

percentage of students with special needs (e.g., handicapped, economically disadvantaged, minority, etc.) a factor that is expected to be correlated with the amount of time needed per student in counseling. The y-axis is productivity scores calculated as described above. The scores for the thirty schools are plotted on the chart. The line represents the average productivity for a school with a given percent of people with special needs. Principal A whose school has 40 percent of students with special needs has a guidance productivity score of .08. The average productivity for a school with that level of special needs people should be .2. Thus, the productivity index for school A would be:

$$\text{Productivity Index (School A)} = \frac{\text{Productivity for school A}}{\text{Productivity for avg. school}} \times 100$$

$$= \frac{.08}{.2} \times 100$$

$$= 3.2$$

The productivity for the average school with the same percentage of special needs students would be:

$$\text{Productivity Index (Average School)} = \frac{.2}{.2} \times 100$$

$$= 1 \times 100$$

$$= 100$$

Thus, the principal of School A would realize that his/her school ranks quite low. This would alert the principal to investigate further and determine if there are legitimate reasons for this level of performance or whether some corrective action should be taken.

While this is just one way that productivity indicators could be used, the approach has much to commend it. Thus, productivity measures can be used by a single "system" or can be used in inter-system comparisons to identify exemplary performance as well as performance needing improvement. Identification of exemplary performance can be especially helpful in spreading "best practices" throughout an organization.

Quality - Assessing the quality of graduates of an educational process requires a set of commonly accepted standards. Typically, education relies on test scores as the quality indicator. Surrogate quality measures, which presumably relate to quality but do not measure it directly, include perceptions of employers, experts, and students themselves.

Quality of product is a major concern in American industry today. Quality experts have long championed the idea that quality must be "build-in" not "inspected in" a product. Such is the case in education. Quality must be built-in to the educational curricula.

In the 1984 plan this issue is addressed by the objective to have 90 percent of all vocational-technical programs using competency-based curricula by 1987. The issue is further addressed in the plan by attention given to inservice training of staff.

Quality and effectiveness are closely related concepts. Although a high percentage of businesses in employer surveys reported that graduates met high quality standards (Accountability Report, FY 82, p. 248), the quality must be questioned when only 10 percent of program completers find jobs in related fields. Such data calls into question the quality of counseling, curriculum selection or appropriateness, and planning. The highest quality program from a teaching standpoint is of questionable value if the graduates cannot find related employment. Quality considerations must extend to all facets of the educational process, not just the classroom. Management of the educational process needs quality just as much as the teaching process.

Utilization - Utilization refers to the extent to which available resources (e.g., space, equipment, staff time) are effectively utilized. The Accountability Report and the Annual Plan do not address this facet of vocational education system performance. However, a substantial state resource commitment is represented by facilities and equipment. Utilization rates provide an index of the return on this investment.

Innovation - Forces of change affecting the United States were addressed earlier in this paper. Innovation refers to the extent to which the system changes to adjust to changes in the environment. The 1984 Annual Plan provides evidence of the DVTEs efforts to adjust to changes. An example of innovation from the Plan includes, Objective 3.4 in the Plan which will involve convening an advisory council to establish competencies for a high technology module, to develop a core curriculum for a high technology module and to pilot test the module. One indicator of innovation could be the percentage of the budget which is dedicated to new activities or programs.

A major stimulus to innovation is feedback from the environment regarding the impact of existing programs. "Necessity is the mother of invention" is more than a catch phrase. However, truly innovative organizations manage the innovation process just as they manage other aspects of system performance. The nature and pace of changes affecting the job environment, require a responsive and innovative vocational education system. Thought along this line is evident in the DVTE 1984 plan. However, is the pace fast enough? Could more resources be shifted away from areas of declining importance to emerging career fields? Should research on the use of computers in teaching vocational skills be an unfunded priority to be done if funds become available? Or, should this be a central priority for which resources will be found either through budget shifts, new appropriations, use of retired executives, cooperative work with industry, or other means?

Quality of Working Life - Productivity and other facets of performance in an organizational system are achieved through people. In order to sustain high levels of performance over time, the needs of people must be met. Individual needs vary from person to person, but there are some common themes. Motivational theorists e.g., Maslow, Herzberg, MacGregor, and others have presented strategies for motivating employees. More recently, organizational theorists such as Likert (1967), Ouchi (1981), Pascale and Athos (1981), and others have argued for designing participative organizations (e.g., System 4, Theory Z) that will provide conditions more conducive to high levels of individual performance. In their current best seller, Peters and Waterman suggest that we do not have to look abroad for illustrations of excellence. One of the cornerstones of excellence was the way the organizations treat people.

"Treat people as adults. Treat them as partners; treat them with dignity; treat them with respect. Treat them - not capital spending and automation - as the primary source of productivity gains. These are the fundamental lessons from the excellent companies research." (Peters & Waterman, 1982, p. 238)

While quality of working life is a broad concept, not readily amenable to measurement, indicators can be developed. Turnover, use of sick leave, and absenteeism are indicators of "organizational withdrawal" and act as quality of working life surrogates. Tangible indicators of an organization's concern for employee growth are shown in budgets for training and development. Employee involvement, an important tenet of quality of working life, is indicated by the level of employee suggestions, by cost savings generated through employee teams, or new ideas and recommendations from employee teams which are accepted by administrators.

The DVTE 1984 plan shows an understanding of the need for staff development through inservice programs for faculty and administrators. It is difficult to determine from the annual plan, the extent to which other facets that promote improve quality of work life are priorities of DVTE. For example, is technical assistance provided to institutions that can be used to assess and modify managment practices? Are there structured mechanisms for soliciting staff input into administrative decisions at the local and state levels? Are there incentives, financial or otherwise, for suggestions which improve efficiency or effectiveness of programs? Do staff members have a say over decisions that affect them on their jobs?

Where Do We Go From Here?
Building An Agenda For Maryland Vocational Education

Maryland has achieved a great deal in the field of vocational education. It has been fortunate to have able administrators, strong university support, and leadership and support from the business community. How can the state build on this existing base and improve its performance in the future? This section will suggest some alternatives that emerged from the previous discussion. These courses of action might form the basis for discussions in the planned staff development conference.

1. Sharpen the Definition of the Vocational Education System and Major Subsystems.

   This paper presented a crude, overall systems definition of Maryland Vocational Education. Using this as a starting point, insiders should sharpen the overall system definition.

   More importantly, the group should conduct independent systems analyses of the major subsystems, e.g. secondary, post-secondary, supplemental adult, etc. The need for such an analysis is pointed out in the evaluations from the previous staff development conference. Participants rated the number one priority for the next confertence as improving coordination between these subsystems. The systems framework provides a useful way to analyze each of these major educational delivery systems and to assess their purpose, overlap, and integration. In addition, such an analysis could identify unmet needs.

2. Develop a Ten-Year Forecast of the Environment in Which Maryland Vocational Education Will Operate

   This exercise is essential in order for the Vocational Administrator to plan effectively. Such an exercise must be done by a task force operating for some period of time. The task force could be filled by volunteers, however, some paid staff support would be necessary in order for the volunteer task force to operate effectively.

   This work should not be done in a vacuum. It should draw on forecasts done by the State Department of Planning, State Department of Economic Development, forecasts by private sector firms, as well as original data colected from educators.

   Agenda for the staff development conference could be to draft a work statement for this task force. What questions should the task force answer in order to provide relevant data for educational planners? This would include answers to questions such as:

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What are employment projections in vocational fields?

What are the fastest growing vocational fields by region?

What fields will lose employment in what regions?

What demographic changes (e.g., age, sex, ethnic group, etc.) will influence client populations?

What are the projected economic development priorities and their work force implications?

What funding levels can be anticipated?

What competition is expected from private sector vocational programs?

3. Define Relevant Performance Indicators for Use by Vocational Administrators and Identify Procedures for Operationalizing these Indicators at All Administrative Levels.

Based on the systems analysis conducted in this paper, substantial efforts should be devoted to the development and use of indicators of productivity, effectiveness (impact), innovation, and quality of working life. This discussion should identify those indicators most appropriate at all levels of the system. For example, the set of performance criteria used at the DVTE level might be different from those used by the principal of a school or the director of occupational programs at a community college.

In order to manage this system, however, it seems that better measures of productivity (output/input); effectiveness (actual impact/planned impact); innovation (proportions of resources devoted to new initiatives); and quality of working life (degree of employee participation; turnover rates; pay satisfaction; opportunities for career growth; etc.) should receive high priority.

This discussion should also address ways in which inter-institution comparisons can be made using relevant indicators. The guidance example presented earlier is just one way this might be done. This approach is preferable to raw data comparisons, since it recognizes that differences do exist between populations, regions, and programs. Some statistical controls for these differences would be needed to make comparative data meaningful.

4. Identify Realistic Mechanisms Through Which the Vocational Education System Can Augment Resource Inputs That Are Provided Through Appropriations?

The most cursory analysis of the environment and the existing system reveals a growing mismatch between existing and needed resources. Access to computer hardware and software alone is an area where this mismatch is most evident, but it is not the only area. Access to advanced biotechnology and medical technology are other areas in which vocational educators are, or will be, handicapped. Thus future. More "schools without walls," loaned excutives (trainers), use of retirees, and other creative responses will be required in order for DVTE to assure that students leave the system with relevant skills.

Final Words

This paper was written to act as a catalyst for planning, discussion, and action. Its benefits lie not in any particular prescriptions offered but in its utility as a means for stimulating dialogue about these issues. The questions raised are important ones for any system to face. They are not easy nor are they new. But they must be addressed. Following a process of consensus-building, meaningful actions acceptable to vocational education professionals and their multiple constituencies can be taken.

There is a danger in education circles that must be faced if we are to make progress. This is the danger of inaction. Peters and Waterman (1982) devote an entire chapter to the fact that excellent organizations have a bias for action. There are many ways to say it. For example, Peters and Waterman offer the following:

> Eighty percent of success is showing up.
> - Woody Allen
>
> But above all, try something.
> - FDR
>
> Ready, Fire, Aim
> - Executive at Cadberry

Perhaps nothing captures the thought better than the following anonymous quote.

"What we learned from the Japanese was not what to do, but to do it."

There is no doubt that we can improve productivity and performance in Maryland Vocational Education. But we must have the will to "Do it!"

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References

Cook, J. "An interview with D. Bruce Merrifield: Two Economies: One going up, one coming down." Forbes, November 7, 1983, 52-57.

Gilli, A. C. DVTE/MSDE needs assessment FY'83, Baltimore, Maryland: Maryland State Department of Education. (Undated)

Likert, R. The Human Organization, New York: McGraw-Hill, 1967.

Maryland State Department of Education, DVTE, Maryland State Plan for the Administration of the Vocational-Technical Education Programs Under Vocational Education Ammendments of 1976. Annual Plan 1984. Baltimore, Maryland; Author: (Undated)

Maryland State Department of Education, DVTE, Vocational-Technical Education Accountability Report - 1982, Baltimore, Maryland: Author: (Undated).

Merrifield, D. B. Forces of change effecting high technology industries. National Journal, January 29, 1983, 253-256.

Naisbitt, J. Megatrends: Ten new directions transforming our lives. New York: Warner Books, 1982.

National Commission on Excellence in Education, A Nation at Risk. Washington, D.C.: U.S. Department of Education, 1983.

Ouchi, W. Theory Z: How American business can meet the Japanese challenge. New York: Addison Wesley Publishing Company, 1981.

Pascale, R. and Athos, A. The art of Japanese management: Applications for American executives. New York: Warner Books, 1981.

Peters, T. and Waterman, R. In search of excellence: Lessons from America's best-run companies. New York: Harper & Row Publishers, 1982.

Reagan, R. In White House Conference on Productivity, Report of the Preparatory Conference on Human Resources. Washington, D.C.: Author, June 1983.

U.S. Conference of Mayors, Labor-management relations service newsletter, 1984, 15 (2-3)

White House Conference on Productivity, Report of the Preparatory Conference on Human Resources. Washington, D.C.: Author, June 1983.

Developing Human Resources Through Staff Development

Kurt Eschemann

A new watchword in vocational skill training is "high technology." Approached in the literature from a variety of issues and positions, the net affect of these forums is that for American business and industry to effectively compete internationally, a new and higher level worker must be prepared to implement, operate, and maintain the latest designs in manufacturing processes. A lack of highly skilled technicians, who have the ability to deal with advanced technological processes, stands as a major barrier against stronger capital investment and the application of new sophisticated manufacturing technology. (Garrison, 1980.)

Since secondary and postsecondary vocational training programs have been targeted as the training grounds for this new breed of worker, the demands placed on the administrators and staff at these institutions has increased significantly. Today's student population holds educational demands never before experienced (Becker, 1977). Faced with this better educated population, human resources, both educators and students, need to be developed to their fullest capability.

The antiquated view that teaching is telling no longer has a place in vocational programs. Professional educators must accept the fact that teaching involves theorizing, detailing, explaining, managing time efficiently, conceptualizing, and evaluating for program revisions. "The 1980s and 1990s to year 2,000 will dictate greater demands on education than heretofore" (Garrison, p.19). Unless educators become involved in the training of technically competent workers, our vocational delivery system will be relegated to a position of mediocrity at best.

For institutions to honor the ever increasing demands of their students, intense efforts will have to be made to maintain the highest quality instruction possible. One answer to this problem may be in the utilization of staff development activities.

Staff Development

Staff development is neither a new nor untested concept in the American educational system. One only has to review the literature to see that staff development activities have been a topic of both philosophical discussion and application for decades. This literature also suggests that staff development activities will play an ever significant role in the decades ahead (Parks, 1978). "A top priority in the Educational Amendment of 1976 (P.L. 94-482) is to improve planning in the use of all resources available to states for vocational education and manpower training." (Dunham, Simmons, Whitten, Harris, & Gentry, 1978, p. 159.) In light of recent studies suggesting that

adults, just as children, pass through stages of development that causes them to develop and change (Sheehy, 1976; 1981; and Levinson, 1978), staff development activities should assume a major role in formulating positive change among these adults if this valuable resource is to improve the quality of our educational system.

Staff development has numerous definitions and descriptions. For purposes of this discussion staff development will be defined as any systematic, preplanned activity or service designed for the purpose of facilitating individual and professional growth in a way that enhances and benefits institution and student development. With this definition staff development activities can be designed in one of two ways. First, are those activities intended to produce change within the institution. Second, are those experiences intended to serve as a forum for information dissemination.

It is generally accepted that staff development activities are the responsibility of administrative personnel. Their responsibility includes the identification, planning, implementation, and evaluation of staff development activities for all those individuals under their immediate supervision. To conduct staff development activities that prepare teachers to meet these increased demands of students, administrators need to determine:

1. Who should participate in the planned activities and experience?

2. What activities and experiences are possible with the amount of resources available and energy expended?

3. Who should be responsible for organizing and delivering these activities and experiences?

4. How can the staff be encouraged and motivated to participate in these activities and experiences?

5. Who, and how, should evaluate the success or failure of these activities?

The answers to these questions will vary depending upon the resources available and the size of the institution and corresponding staff involved. To obtain reliable and accurate answers, the staff development personnel first need to have a clear understanding of the institutions obligation to both their students and the needs of business and industry within their local labor market area.

Staff Development Planning

Planning staff development activities is a relatively straight forward process; going ". . . from identifiable needs to predictable outcomes" (Parks, 1978, p. 191). Planning activities and experiences with dedication and high intentions is admirable, but does not always ensure success. In those instances where less than favorable results are obtained, the fault may have been inappropriate rather than inadequate preparation. While it is no guarantee of success, planning should insure that the activity (Paul, Carlos, & Bushness 1982).

1. meets the needs of the staff participating;

2. is in harmony with the resources available;

3. makes the best use of time allowed.

Successful techniques that have been used for both statewide and local planning have been identified and discussed in considerable detail by Brooks, Litchfield, and Green (1978). Space will not permit a detailed discussion of these techniques, however, they are identified for those staff developers seeking new ideas to improve future activities and experiences.

1. Delphi Technique

2. Advocate Team Process

3. Program Evaluation Review Technique

4. Brainstorming

5. Management by Objectives

6. Planning, Programming, Budgeting System

7. Zero-Based Budgeting

While these techniques are familiar to many planners Brooks (1978) warrants a review as it provides a detailed explanation of the strengths, weaknesses and implementation strategies inherent in each that may be overlocked.

One final issue that needs to be addressed in the area of staff development planning is the type of activities preferred by the participants. How many times have participants been surveyed and the responses found be less than favorable? A generalization of these responses may be ". . . I don't know what I want, but I do know what you gave me wasn't it." The message is clear and individual reaction varies: disheartening; ego-deflating; frustration; hopelessness; and failure. More importantly the intended objectives have not been met. Fortunately these experiences can be transformed into a learning experience if they

are accepted in the manner they were solicited; constructive criticism. Hilmar Wagner, at the University of Texas, developed a list of 10 suggested activities for inservice training. Simply titled "What Teachers Like . . ." they are:

- Teachers like meetings in which they can be actively involved. Just as students do not want to be passive, most teachers prefer Dewey's "learning by doing."

- Teachers like to watch other teachers demonstrate various techniques in their teaching field. Demonstration teaching can serve as a model that teachers can take back to their classrooms.

- Teachers like practical information - almost step-by-step recipes - on how others approach certain learning tasks. Too often, inservice programs are theoretical and highly abstract.

- Teachers like meetings that are short and to the point. The introduction of guests at a meeting is often ego-filling for those introduced, but cuts into valuable inservice time.

- Teachers like an in-depth treatment of one concept that can be completed in one meeting rather than a generalized treatment that attempts to solve every teacher's problems in one session.

- Teachers like well-organized meetings.

- Teachers like variety in inservice programs. If the same topics are covered every time, attendance may drop off.

- Teachers like some incentive for attending inservice meetings; released time, salary increments, advancement points on rating scales.

- Teachers like inspirational speakers occasionally. Such speakers can often give a staff the necessary drive to start or complete a school year.

- Teachers like to visit other schools to observe other teachers in situations similar to their own. These visits, even when observing poor teachers, are highly educational.

Staff Development Implementation

With the staff development plan carefully reviewed and accepted, steps must be taken to implement the proposed activity. Previous experience tell us, either as director, presentor, or participant, that a small error in scheduling logistical support services can spell doom at the onset of the activity. The fact

that they are almost always uncontrollable--bad weather, last minute emergencies that prevent a key speakers arrival, or someone just forgot to double check--does not negate their impact. Ideally a plan should be developed that guarantees successful implementation; however, reality tell us that such a plan is impossible. There are, however, specific steps the planner can take that can minimize some of the logistical mistakes that occur.

First, determine the nature of the activity or experience as it relates to the intended objectives. If the purpose is to make change, precautions should be taken to ensure that the participants are carefully screened and placed into selected small groups. This permits the use of longer sessions and prevents the outspoken critics from dominating the session with personal beliefs and biases that run counterproductive to anticipated or mandated outcomes. Large groups are acceptable if the activity or experience is to disseminate information. Requiring the speaker to present facts, figures, statistics, or future trends to a series of small groups over an extended period tends to frustrate both the speaker and the participants. The speaker, since the repetition becomes monotonous and the participants since they share the highlights of the information as the groups are rotated; thus making it news only to the first group.

Second, physical facilities need to be selected based on the type of workshop activity planned for the participants and the speakers method of delivery. If budgetary restrictions prevent the activity from being held at a facility outside the institution, then the inhouse location should be as congenial as possible. This need not involve a major redecoration but merely cleanliness, planned seating arrangements, proper lighting, and easy access of workshop materials.

Third, participants need prior notice on the purpose of the activity and their responsibility. Surprises are excellent if they has a special significance to the receiver i.e., birthdays, wedding anniversaries, Mother's Day, Father's Day. Inasmuch as the staff development activity is usually not intended for individual benefit, the prior dissemination of information is critical. Without such information the participants will usually assume their only responsibility is to sit quietly and attentively hoping that something said will apply or be appropriate.

Fourth, activities should be scheduled and offered in a manner that benefits the participants and the institution. If the workshop is intended to help the organization it should be held during normal working hours. Conducting activities on weekends or after normal school hours infers a form of punishment. Should institutional policy prevent scheduling activities during normal working hours the participants should be afforded the opportunity

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to voluntarily participate or be given some type of continuing education or college credit for their attendance and efforts (Garrison, 1980).

Staff Development Evaluation

Once completed, the staff development activity must be evaluated. A mistake commonly made is to evaluate the activity only at its termination. The rationale for this approach to evaluation is both logical and understandable. The information presented, the speakers effectiveness, the condition of the facilities, and the atmosphere of the proceedings in general are still fresh in the participant's mind. What better time to gain an understanding of the participants thoughts and impressions? The addition of time-delayed follow-up also needs to be added however. The intensity and duration of the follow-up must be based on the activity's objectives. If the objective was for participants to develop a program of instructional self improvement, time must be given for the plan to be developed and refined. Individual progress must be monitored and individuals assigned to assist the participants in completing their activities must be available on a timely basis. Most important it is essential to show that the activity had, and will continue to be, a valuable utilization of time spent by all involved. Many staff development activities have failed, at least in the eyes of the participants, by the planner's failure to follow-up the progress made in assignments given.

In addition to providing the staff development coordinators with information on the activity's success, this information can be used to plan future activities that are necessary for the institution to effectively meet the ever changing and increasingly demands placed on it by employers of their graduates while also serving as a basis for recruiting future students.

Summary

A variety of vehicles currently exist to provide the skilled workforce required by American business and industry. Only the type of clientel served, usually controlled by geographical location, level of funding, and educational philosophy, differentiates them. Regardless of their differences all have the potential to ". . . represent a substantial portion of the national wealth" (Garrison, 1980, p. 24). For this source of potential wealth to make its true contribution it must be refined to its fullest potential. Doing so requires that every element be recognized and prepared.

For vocational education to make an impact on the economic development of this country we need high quality staff (Bushnell, 1980). It will not happen by chance. Nor is placing aggressive, competent individuals in key administrative positions enough (McClelland, 1967).

References

Brooks, K. W., Litchfield, C. G., & Green, G. Q. (1978). A survey of planning techniques. In C. S. Lamar (Ed.), Comprehensive planning for vocational education: A guide for administrators (pp. 213 - 240). Washington, D.C.: American Vocational Association

Becker, W. E. (1977). Investment in human capitol. In W. G. Meyer (Ed.), Vocational education and the nation's economy (pp. 59-76). Washington, D.C.: American Vocational Association.

Bushnell, D. S. (1980). The role of vocational education in economic development (Contract No. 300790762). Washington, D.C.: U.S. Department of Education.

Dunham, D. B., Simmons, B. L., Whitten, B. C., Harris, P. J. & Gentry, D. K. (1980). The human element in comprehensive planning. In C. S. Lamar (Ed.), Comprehensive planning for vocational education: A guide for administrators (pp. 159-188). Washington, D.C.: American Vocational Association.

Garrison, D. C. (1980). Community colleges and industry: A stronger partnership for human resource development. In R. Yarrington (Ed.), Employer Training for Productivity: A report of a 1980 assembly on industry education cooperation (pp. 18-24). Washington, D.C.: American Association of Community and Junior Colleges.

Levinson, D. (1978). The season's of a man's life. New York: Knopf Publishing.

McClelland, D. (1967). The achieving society. New York: Free Press.

Parks, Darrell (1978). Training personnel to plan effectively. In C. S. Lamar (Ed.), Comprehensive planning for vocational education: A guide for administrators (pp. 189-201). Washington, D.C.: American Vocational Association.

Paul, K. K., Carlos, E. A., & Bushnell, D. S. (1982). Vocational education and economic case studies (Contract No. 300790 762). Arlington, VA: American Vocational Association.

Sheehy, G. (1976). Passenger: Predictable crisis of adult life. New York: Dutton Books.

Sheehy, G. (1981). Pathfinders. New York: Morrow Publishing Co.

Productivity through Vocational Education
Alfred W. Pelletier

It is a great pleasure for me to join you this evening, as we discuss issues very close to my life, issues that have moved education into the spotlight as one of our most prominent national news topics. Tonight, as you may know, I speak from the perspective not only of the business world, but also of my own training in vocational schools in Canada, and my involvement with a major vocational organization in this country--VICA--the Vocational Industrial Clubs of America.

Perhaps no term has been tossed about with such casual frequency in the media over the past few years as "productivity." But now, as we face a crucial turning point in vocational education, this term is relevant to every point, and while productivity refers to the problems of vocational education, it also refers to the contribution that quality vocational education can make to our national economy and to the development of meaningful employment for thousands of american students.

You are all well aware of the widely publicized report of the national commission on excellence in education, A Nation at Risk. This and other contemporary evaluations which I will mention shortly have provoked an uproar across this Nation about public schools and professional educators, and it has happened before, witness the post-sputnik era of the late 1950's. However, this time the uproar has been touched off in large part by professional educators themselves, which must be considered a very positive sign. Indeed, the current media attention and questioning atmosphere throughout education presents one of the best opportunities in years to seize the momentum and actually initiate some dramatic change on the issues before us. Often we chastise the media, accusing it of beating a subject to death. But when a topic receives enough attention, people finally become aware and interested. This exposure can work for us as we stress the changes that must occur in both academic and vocational education. But our objectives must embody a careful, long-term reorientation of american education, not hysterical change for the sake of change. This will decide the difference between a more effective system that capitalized on student potential and the real-world marketplace on one hand, or on the other hand, the educational equivalent of "the day after."

I would judge that most Americans simply take our public school system for granted. Some accept it, others do not. Historically, at least until the later half of the 19th century, education was a personal or family responsibility. And today, many still treat it as such, with a growing and sometimes alarming emphasis on private and parochial schools. The government just wasn't involved to any substantial degree, except for eliminating child labor, until the 1950s and 1960s when federal aid to education blossomed, along with thousands of

large, comprehensive high schools and various types of vocational institutions. These are precisely the establishments cited most often in "A Nation at Risk" as contributing to the "rising tide of mediocrity."

Similarly, most americans have long taken our postwar industrial preeminence for granted, and of course, this concept has also been severely shaken.

The issues of industrial restructuring and educational reorientation are profoundly interrelated, given the obvious effects each has on the other. Since the 1960's a gradual force has been at work in this country, slowly unravelling key segments of our domestic economy and eroding our ability to compete in the global marketplace. For too long we viewed our economy as a sovereign island, believing that we could do virtually whatever we wished as long as it was good for us in the short term. At the same time, other nations, particularly Japan and many of the developing third world countries, were rapidly building up their economies and entering into vigorous competition with established trading powers.

During this period, our government pursued a hodgepodge of stop-and-go economic policies which resulted in high inflation, and all but destroyed industry's ability to plan and prosper. This overall "levelling" effect has brought America into line with other nations -- and has destroyed the advantages, real or imagined, that formely made things seem so easy.

The key to understanding the magnitude of this change lies in realizing that the recession from which we have just emerged is not just another business cycle. We foresee no appreciable return to "normalcy" as we have preceived it through traditional business careers. And those who fail to recognize this reality risk their futures, whether they lie in business or education. Likewise, many of the casualties of this global economic transformation must accept a major change in their lives, because relatively few of the workers laid off in the past four years will be rehired into the same fields, regardless of how strongly the economy recovers. Wrenching change, especially affecting younger workers, is the price exacted by years of poor planning and living beyond our means.

The impact of technological change will only hasten this process, and we will likely spend the rest of the eighties thrashing out answers to some very basic questions: how will our economy absorb the displaced? How will we accommodate new entries? We cannot alter the forces producing this change, and so we have this contemporary challenge for education of all types -- easing this unavoidable transition, helping citizens find a productive role in society, preserving their self-sufficiency and human dignity.

In 1925, R. E. Olds sold out his interest in the automotive industry, stating that "the field holds no more interest for me because the motor car has reached the ultimate in design and technology, and I wish to look for new fields to conquer."

Thomas Edison once remarked that no one would steal his phonograph because it had absolutely no commercial value.

Lee Deforest, the inventor of the vacuum tube and, more than anyone, the father of electronics, said in 1926 that he considered television to be technically feasible, but financially and commercially impossible.

These conservative prophets did not understand the self-energizing momentum of technology and its exponential spread.

In the late 1940s we were deluged with fanciful predictions that the millennium was just around the corner. All of our needs would soon be provided to excess by a totally electronic, automated, and nuclear-powered world. All that remained would be sufficient means to keep people occupied and entertained.

As you can imagine, too literal an acceptance of "futurizing" always invites error. We must not ignore the processes of designing, constructing, and maintaining such complex systems. And we cannot ignore Eric Hoffer's criteria of "where do they keep the broom," to which we might add, "and who pushes it."

The purpose of such illustrations is to caution against simplistic statements and simplistic solutions. New technology will surely eliminate many jobs. But it will create many others. New technology and a changing economy will permantly recast certain industries, eliminating some segments, but it will also assist, by application, many other segments in becoming more competitive and more adaptable to change.

I know that my industry must take advantage of "state of the art" design and manufacturing systems as they become available, and I will address several that have already had an impact.

A further extension of "cad" as "cam" -- computer aided manufacturing, wherein production equipment is selected, prepared, and automatically guided through specific processes, all by central computer control. This opens up an entire spectrum, involving an interface with other machines, robots, unmanned transportation systems that direct and move in-process material through the plant until it becomes a finished part in a warehouse. Even then the computer can direct the activities of systems that select parts from stock for shipment to customers or assembly operations, as well as trigger a re-order to maintain a desired inventory. Such systems are already in use in varying degrees throughout the industry. The same computer can also signal maintenance requirements on its attendant machinery.

Before moving into a specific discussion regarding my observations and recommendations on the present state and future of vocational education, I would like to use my company and industry as a "microcosm" of sorts to illustrate the impact of emerging technology on vocational training. I believe this will help amplify my point that vocational education -- indeed, public education in general -- must be exposed to the same forces that are making businesses more productive contributors to our society: namely, high standards, incentives, and competition.

The advances of technology have brought us a long way, but if one were to quantify present technology and compare it to what is to come, it would rate slightly above the stone axe.

For example, except for improvements in the wear resistance of cutting tools, much material shaping is performed using principles of the last century and before. We have made dramatic improvements in speed, accuracy, and efficiency, but 80 percent of what we do in a typical heavy-duty truck plant today would still be recognized by Eli Whitney.

At Mack, we have long recognized the need to keep abreast of the latest developments. The company not willing to do so will not survive in our intensely competitive marketplace. We have installed a number of new systems, many at our powertrain division in Hagerstown, such as: computer-aided design, numerically and computer-controlled machine tools; computer-based inventory and production control systems; sophisticated energy and environmental control systems; and computerized accounting, purchasing, payroll, and other information processing procedures.

We maintain a full-time task force charged with implementing a much higher degree of computer assist to our product design, testing, and manufacturing processes. The system presently available promises a quantum leap in our ability to improve our product and build greater efficiencies into our operations. While the heavy-duty truck industry is not nearly as automated as the automobile segment, developments on the horizon will move us into an entirely new era, which, in essence, has already begun.

For instance, our latest product, introduced just last year, utilizes a composite cab constructed of high-strength fiberglass compounds, with an exterior shape refined in the being/vertol wind tunnel.

Looking ahead, technological forecasting has a long history, and the only generality that can be made by the layman is that most "seers" of yesteryear were either to conservative, too fanciful, or totally off in left field. Technology tends to take off at unpredictable velocities and in unexpected directions. Even the most brilliant in their specialties often made grossly inaccurate predictions.

On-board computers will soon become a common component on heavy-duty trucks -- they already exist in home appliances and automobiles. They will handle functions such as fuel injection, emission control systems, speed control, trip records, diagnostics, safety and preventive maintenance, and much more. The possibilities are almost limitless.

Fiber optics, presently in rather limited use throughout the truck industry, hold great possibilities for applications in communications and interfacing of systems. Their value has already been proven extensively in telecommunications and other so-called "high tech" industries.

Lasers, once utilized only in laboratories and for highly sophisticated purposes, are now moving into the mainstream as an important tool. Although they presently have certain limitations in durability and power, lasers will surely become a clean, quiet, highly accurate means of shaping materials. They will also find applications in communications, data storage and retrieval, welding, and burning parts from sheet metal -- replacing some torch and press operations. Lasers have already been proven in years of application in medicine, aerospace and other fields. Our present laser use in the areas of parts inspection, machinery adjustment, and wheel alignment merely scratches the surface.

Robotics is another highly visible, highly publicized area of future development, closely allied with the computers that make them possible. Their great advantage lies in performing tasks in hazardous or unpleasant environments, as well as those that are highly repetitive and demand a high degree of speed and accuracy. Automakers around the world have poured billions into robotics over the past few years, handling welding operations, painting, testing, with much more to come, at Mack, we are very lightly into robotics due to the custom of nature of our product, with very few orders exactly alike. We do, however, utilize robots for certain painting operations, and expect wider use in the near future.

The design complexity of future products shall certainly increase the present trend, whereby much of what we produce is conceived and planned by highly skilled and experienced personnel. The new graduate of a vocational school, or the retrained worker will utilize his or her own skills, but will also be guided by procedures established by others. As the technician gains in knowledge and experience, increased responsibility in the decision-making process will follow.

What kind of people do we need to support the future as described? I believe that we must first reemphasize a basic, underlying structure of skills before a student is permitted to specialize in a particular field. For instance, a grade 10 level of study should present an overview of industry as a whole, highlighting the opportunities that exist now, as well as those

likely in the future. Along with this, we continue the educational process to (1) develop mental capacity, logical thinking, and motor skills; (2) produce a recognition of the importance of conscientious attitudes, cooperation, and safe work habits; (3) inspire each student to consider a career area and develop a willingness to make necessary sacrifices in order to become skilled in it; (4) motivate a curiosity about technology and the world in general that will continue after graduation.

For those about to enter a retraining program, the key factor is motivation, as this person is most likely operating under more significant constraints than the younger student.

Once a student has become knowledgeable enough to choose a field, we can concentrate the educational effort toward a more specific goal. However, it is both unwise and potentially wasteful to specialize to an extreme today, and to ignore relationships with other disciplines. The key word her is flexibility.

The rapidly increasing pace of technological change can virtually wipe out a highly specialized skill overnight. The highest potential can be recognized in the student who has gained the most, overall, about a subject . . . not the student willing to spend the most hours polishing some accurately convoluted compound of iron, carbon, and other ingredients to a mirror finish!

Those of you intimately involved in vocational education will be serving two distinct audiences, particularly as we progress further into the eighties. In a sense, the existing worker in the retraining mode is probably much closer to the sharp edge of capabilities, and will require a shorter and more focused training period. This individual may also have the obvious advantage of a guaranteed job, and a greater opportunity to advance in skill, given the vested interest of the employer.

In many "mature" manufacturing industries across the Nation, retraining will become a major issue in the years ahead. As many such employees are (and will continue to be) represented by labor unions, another issue arises -- that is, labor/management cooperation in the retraining effort. At Mack Trucks, both parties recognized this necessity during our last contract negotiations with the United Auto Workers. We established three executive-level committees designed to discuss and develop mutually beneficial policies on (1) retraining and placement; (2) the impact of technological progress, and (3) employee involvement. We provide tuition refund programs for employees, which will no doubt represent a considerably higher expense in the future . . . hopefully to be offset by improvements in productivity.

The $3.6 billion job partnership training act, which went into effect on October 1st, is targeted for adult retraining programs for laid-off and other unemployed workers who require skill

updating or modification. Such programs are being implemented with the cooperation of private industry councils across the country. A local pilot program was launched two years ago in Lehigh County, Pennsylvania, and has been very successful.

Recent projections claim that perhaps 75 percent of the present work force will remain in place over the next ten years, and many in that group will require retraining. If this premise is valid, retraining may become necessary for reasons other than technological advancement.

In a relatively static employment situation, with limited promotional opportunities, the lateral movement of employees into other disciplines may become necessary as an incentive for them to continue their employment with us.

And still another labor issue arises: given the overriding concern of many unions for preserving existing jobs, what kind of cooperation can we expect in helping new workers who are trying to enter the job market, and given the rigidity of certain work rules, can the imperative of vocational flexibility become a reality?

I believe that our primary focus today still concerns the young people destined for high schools and technical schools. This is the heart of vocational education, this is where we can best address the enormous problem of youth unemployment, this is where so many changes must occur. The world of vocational education is a world of both pleasant surprises and bitter disappointments. It is an inconsistent world, in which some of the finest examples are juxtaposed with the worst.

Without ample mental resources, today's 18 year olds forfeit their chance for high salaries and interest work. As never before, compex equipment, baffling technical manuals, and work with numbers rive the everyday lives of industrial and office workers. Solid foundations in language, mathematics, and science are basic to getting and holding these jobs.

Today, almost 20,000 high schools, career centers, technical institutes, and community colleges enroll some 17 million students in hundreds of different vocational programs. Many turn out highly employable technicians in growth-oriented fields. Many others have become human junkyards where the poorly prepared "do their time," waiting for a meaningless diploma that is nothing more than a ticket to the unemployment office.

Employers today cannot be expected to retrace the entire educational process when they find that prospective employees can neither read nor master basic processes and procedures.

Vocational education has great merit when a solid grounding in language and math is a prelude to hands-on training in a particular skill. But the skill must be marketable. What a

tragic waste when students learn to rebuild carburetors as new automobiles are fuel-injected; when 16 year olds sit and peck at manual typewriters as word processing and computer terminals revolutionize the office, and when students fill their days with general education or vo-tech electives that have become "white elephants" -- occupying time rather than minds.

By many accounts, the biggest problem area involves the all-purpose public high schools, often short of qualified teachers, relevant equipment, and rigorous standards. Consequently, all of their emphasis falls on academic education, while slow or reluctant pupils are prematurely pushed into poorly administered general education or "job-training" courses.

Clearly, much of our vocational education programs in America must be moved out of the high school basements! Regular high schools might best serve vocationally oriented students by finishing the academic requirements earlier, and narrowing nonacademic instruction to a few well-chosen basic courses, such as typing, introductory computer science, and basic electronics. Once students master fundamentals in both areas, they could move on to full-time trade schools or technical institutes, and perhaps even fulfill certain academic requirements at the vo-tech school.

Many vo-tech administrators must compete for students today, both from the traditional source of high schools, and from the adult or postsecondary market. One idea for attracting a large share of the high school population into quality vocational training is to have high schools eliminate the general education diploma, which serves a questionable purpose at the present time. The general curriculum teaches no job skills, and its elimination could clear the boards for more training in basic academics -- which are so sorely needed by today's technically oriented students.

About four weeks ago, I had the privilege of attending a national conference on vocational education in Washington sponsored by the U.S. Department of Education. The primary purpose of this gathering was to discuss and react to the report just issued by the National Academy of Sciences entitled, "Education for Tomorrow's Jobs," which was commissioned by the Department. This report is must reading for everyone involved in vocational education, and can be considered vocational education's equivalent of "A Nation at Risk."

Many specific conclusions and recommendations emerged from this in-depth evaluation of our nation's vocational programs. I intend to identify three that I feel are the most basic and most telling. First of all, there is absolutely no doubt that vocational education in America suffers from being conferred generally lower status than academic education, particularly at the high school level.

This perception among governmental agencies, school districts, and the public at all levels frustrates funding efforts as well as the recruitment of high quality personnel. The problem is often partially overcome in the specialty vocational high schools and postsecondary technical institutes, but what about those who never reach such programs?

A rapidly changing world and national economy demands a new type of work force, possessing a level and range of skills different from past generations. These skills are not taught in the college classroom. They are a function of vocational education. The problem of designing such programs to meet these changing skill requirements is that there is no agreement on what these requirements may be in the future. However, it is possible to chart apparent and emerging trends. And it is possible to better prepare students with basic strengths and with a wider exposure to promising areas, which will enable the student to adapt and become a flexible, productive participant in this economy.

Most people would agree with the first point, as the supporting evidence is all around us. The second may provoke some debate. The committee on vocational education and economic development in depressed areas firmly believes, and I agree, that providing an effective array of vocational education opportunities is a role of public education equal in importance to their role of preparing students for college.

While expanded efforts at collaboration between the public and private sectors are certainly desirable, employers should not be expected to assume greatly increased responsibility for education and training. The economics would be prohibitive, with only the largest firms able to do any substantial training. These trained people would then become marketable, and other firms would compete to hire them, thus destroying the original incentive to train and destroying the training firm's ability to recoup its investment. Furthermore, if only a handful of private entities offered training, they would most likely retain the graduates for their own operations, which would dramatically worsen the already critical problem of access.

As I said, the primary responsibility of public education does not preclude cooperative ventures and assistance from the private sector. Business and labor organizations can often serve as effective catalysts, providing guidance on employment outlook, curricula, and standards; making up-to-date equipment and technical assistance available; establishing co-op and work/study programs; and creating competency-based evaluations. In fact, business and labor must become more involved in making commitments of people and equipment, and in speaking out forcefully on scholastic shortcomings. This interest must reach beyond what comes easy -- such as making tax-deductible donations and promising to hire more local graduates. But to burden us with the function of remedial training. or to expect us to hire students who have not mastered basic educational and occupational skills is to doom the whole system to failure.

The third and perhaps the most important conclusion concerns strengthening the actual practice of vocational education itself, in the areas of teaching, financing, and access.

The great variety that exists today in American vocational education is both an asset and a drawback, particularly as it affects the instructor. Certification requirements are set at the state and local levels, with extreme variation across the country. Public high school instructors often cannot apply occupational training experience gained in business to the rquirements that exist, a desirable option that seems limited to the postsecondary level.

On the other hand, many instructors are plucked out of industrial situations and are expected to teach with little or no human relations skills. A widespread parallel exists in business, when individuals are taken off a production line and proclaimed supervisors.

These points and more point to the need for federal guidelines on competency-based certification, in-service training, incentives to promote periodic updating of instructor knowledge and skills, and a formula aimed at rewarding excellence.

Some may balk at the prospect of further federal involvement in education. But given the tremendous impact that quality vocational training can have on our future as a Nation, I believe such involvement, which would still be comparatively limited, is fully justified.

The issues of funding and access are closely related, and traditionally controversial. Vocational program costs are highly variable, highly dependent upon the type of equipment required, and highly susceptible to rapid change. Local capitation formulas (number of dollars per student) limit flexibility and frustrate programs that involve attendance at more than one facility. New formulas should take more of the commonplace variables into account, including the needs for remedial training and the needs of disadvantaged students.

Also, several programs or schools should be permitted to pool their resources of expensive equipment that is purchased, leased, or borrowed. And experimental programs that may lead to entire new avenues of training must be encouraged with seed money and administrative support.

The committee has recommended the selective introduction of vocational incentive grants on a trial basis. Such a system would provide grants to institutions on behalf of students between the ages of 14 and 18, scaled to the individual's economic resources. The grants would be used to obtain vocational training anywhere in the country, providing a maximum value of 100 - 120 percent of the national average expenditures per student in secondary vocational education programs. Students

could use the grants any time during their four years of eligibility and for sufficient time to complete their programs.

The committee recognizes, and I recognize that such new approaches are likely to meet with strenuous opposition from various sources, but experimentation is warranted if it will help to improve the programs and students' access to them. If we are not open to new ideas, we might ask ourselves, "why are we here?"

I am confident that we all share the belief that some rather substantial changes must come to vocational education. But we must resist the simple answers that do not solve problems -- they only prolong their resolution. We must reexamine the entire underlying structure of our education system, and resist the election year mentality that tempts us to throw more money at the problems with the hope that it will somehow provide a fix. Despite comments to the contrary from several media-prominent education figures, the answer does not lie in simply paying teachers more.

As most of you are aware, the $700 million vocational education act, one of the federal government's largest subsidies to secondary education, expires on September 30, 1984.

The same recent studies that have brought education to the front pages have also suggested to Congress that existing programs are not working -- particularly in vocational education. This measure could face a real struggle, regardless of this being an election year, and regardless of the fact that news often attracts money. Furthermore, vocational education for America's youth has reached the critical stage simultaneously with the plight of displaced workers.

Vocational planners have a unique opportunity to get started on some long overdue reforms, and the opportunity is now!

Although I am as concerned as anyone in business about the size of our federal deficit and the growth of federal programs, I believe that we can make a strong case for reauthorization of the Vocational Education Act . . . with one provision -- a big provision. The use of funds must be redirected.

In the past, federal funds were used to expand and encourage access to vocational programs. While this remains important, the need to improve the quality and relevance of instruction is far more crucial, and cannot wait. Unless we direct these valuable funds at timely targets, the money will merely perpetuate waste, in both financial and human terms.

Three points have been articulated by the National Alliance of Business on the topic, and I would like to share them with you. The NAB policy committee suggests that governors appoint industry/labor committees to review and report on state labor market needs. The second point--specific technical comittees

from industry would identify necessary skills for each occupation. Third, outstanding educators, compensated with federal funds, would staff these committees within state departments of education, and work with educators to adjust curricula and incorporate the state-of-the-art in each occupational skill.

This is a partnership approach, and for such an arrangement to function effectively, the partners must have clearly defined and designated roles and responsibilities. This is missing from currently proposed legislation. The investment must also be tightened up to concentrate on really making a difference in the most critical areas, rather than trying to do too much with too little.

In essence, we cannot necessarily expect to receive increased funding--but we certainly can use available funds more efficiently. And we must!

In concluding my remarks I would like to review some general recommendations recently put forth by the California State Department of Education:

- We need national program standards developed jointly with industry and education, both general and specific for areas within trade and industry.
- We must coordinate programs and training in grades 7 through 14.
- Industry and education must jointly share the decision making, planning, and implementation process.
- We must adjust academic training to better reflect changing technology.
- The time allotted for complete training should increase proportionally with the complexity of the subject matter.
- We must encourage a regular exchange of personnel between training and industry on a short duration basis to ensure relevance to current and anticipated needs.
- We must encourage more cooperative programs that include both classroom and on-the-job training, perhaps after regular hours. The measure addresses the fact that it is financially impossible for schools to stay full up-to-date with industrial equipment.
- We must end the practice of "turfmanship" with training programs, and substitute cooperation among all segments.

- Training is incomplete without the personal skill development, motivation, and leadership programs provided by organizations such as VICA. The crucial importance of this added dimension cannot be underestimated.

I personally support each and all of these recommendations.

As chairman of VICA's youth development foundation sponsoring committee, and in keeping with the theme of your meeting -- "productivity through vocational education," I will do everything in my power to encourage business and industry leaders to accept their responsibilities in this regard. And I urge our other partners, namely government, labor, and education to accept and pursue their roles.

The challenge is so similar to that present to our country by global economic transformation. And the interest that hangs in balance is precisely the same--our national interest, and the human dignity of our citizens.

Thank you very much!

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